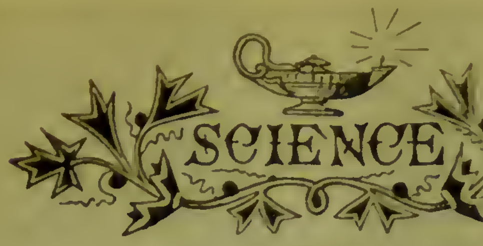

THE
CHEMISTRY OF THE PHARMACOPŒIA
ACCORDING TO MODERN THEORIES.

BY JOHN CARGILL BROUGH.

VIII.

OXYGEN-ACIDS AND SALTS—(*continued*).

The essential distinction between *monobasic* and *dibasic* acids was pointed out in a former article (July number, p. 97), but as we have now to examine the dibasic acids and their derivatives, I will endeavour to make this distinction perfectly plain to my readers. The molecule of a monobasic acid contains but one atom of hydrogen that can be replaced by metal, while the molecule of a dibasic acid contains two replaceable hydrogen atoms. Nitric acid HNO_3 is obviously monobasic, and the normal metallic nitrates may be represented by the general formulæ MNO_3, $M''(NO_3)_2$, and $M'''(NO_3)_3$, in which the symbols M, M'', and M''' respectively stand for univalent, bivalent, and trivalent metals. The univalent atom M replaces H in a single molecule, and unites with the residue NO_3; the bivalent atom M'' replaces H_2, or the proportion of hydrogen in two molecules of nitric acid, and fixes the two residues, or $(NO_3)_2$; the trivalent atom M''' replaces H_3, or the hydrogen of three molecules, and fixes the three acid residues, or $(NO_3)_3$.

As an example of the dibasic acids, oil of vitriol, H_2SO_4, may be taken. The molecule of this acid contains two replaceable hydrogen atoms, and its *neutral* derivatives may accordingly be represented by the general formulæ M_2SO_4, $M''SO_4$, and $M'''_2(SO_4)_3$. The hydrogen in the molecule is completely replaced, and the residue SO_4 fixed, in the first case, by two univalent metallic atoms (M_2), and in the second case by one bivalent atom (M''). The neutral sulphate of a trivalent metal represented by the third formula has necessarily a constitution somewhat complex, as one atom of such a metal (M''') replaces an odd number of hydrogen atoms. Besides these neutral salts, there are derivatives of the dibasic acids in which the hydrogen has only been partially replaced by metal. They are known as *acid salts*, and are exactly intermediate in composition between neutral salts and the free acids. Thus, between neutral sulphate of sodium or disodic sulphate Na_2SO_4 and sulphuric acid, H_2SO_4, there is the acid salt called hydrosodic sulphate, $HNaSO_4$, in which hydrogen and sodium share the basylous function. Again, amongst the derivatives of the dibasic acids, there are well-defined *double salts*, in which different metals represent the displaced atoms of hydrogen.

In the following table the derivatives of a dibasic acid are set against those of a monobasic acid:—

Sulphuric acid (*dibasic*)	H_2SO_4	HNO_3	Nitric acid (*monobasic*).
Hydrosodic sulphate	$HNaSO_4$	———	
Disodic sulphate	Na_2SO_4	$NaNO_3$	Sodic nitrate.
Sodiolithic sulphate	$NaLiSO_4$	———	
Dilithic sulphate	Li_2SO_4	$LiNO_3$	Lithic nitrate.

The pharmaceutic dibasic acids, and salts derivable from them, may be grouped under the following heads: Sulphites, Sulphates, Hyposulphites, Chromates, Carbonates, Oxalates, and Tartrates.

Sulphites.

Sulphurous Acid or Hydric Sulphite, H_2SO_3. A solution of this acid is the *Acidum sulphurosum* of the Pharmacopœia, which is defined as "*sulphurous acid* SO_2, dissolved in water." According to modern theories, the molecule of the acid contains two atoms of hydrogen, and the gaseous oxide of sulphur represented by the formula SO_2, belongs to the class of bodies called anhydrides (see chap. vi. p. 97). The acid is formed when sulphuric anhydride is passed into water, thus:

$$SO_2 + H_2O = H_2SO_3.$$

In the officinal process for preparing the acid solution, sulphurous anhydride is produced by the reaction of sulphuric acid and wood charcoal:

$$2H_2SO_4 + C = 2SO_2 + CO_2 + 2H_2O.$$

The secondary products of this reaction are carbonic anhydride and water. No metallic sulphites are mentioned in the Pharmacopœia, but the sodic and calcic sulphites, Na_2SO_3 and $Ca''SO_3$, are well-known medicinal salts.

Sulphates.

Sulphuric Acid or Hydric Sulphate, H_2SO_4. (*Acidum sulphuricum, monohydrated sulphuric acid, HO,SO_3,* B. P.) According to most modern writers on chemistry, the acid of specific gravity 1.846 prescribed in the Pharmacopœia is the true hydric sulphate; but Dr. Redwood, on the authority of Marignac, states that this specific gravity indicates the presence of a small proportion of uncombined water, the specific gravity of the acid represented by the officinal symbolic formula being 1.848 (see *C. and D.* vol. v. pp. 59, 65). To purify the sulphuric acid of commerce, the Pharmacopœia directs that it is to be distilled with ammonic sulphate. By this treatment, the commercial product is freed from nitrous acid and other oxidised compounds of nitrogen, which are entirely decomposed into water and nitrogen gas. The reaction between nitrous acid and the ammonic sulphate may be thus represented:

$$2HNO_2 + (NH_4)_2SO_4 = H_2SO_4 + 4H_2O + N_4.$$

Potassic Sulphate, K_2SO_4. (Sulphate of potassium; *Potassæ sulphas, sulphate of potash, KO,SO_3,* B. P.) This salt may be taken as the type of those neutral derivatives of sulphuric acid, which contain univalent metals. It is prepared according to the directions of the Pharmacopœia by neutralising a solution of hydropotassic sulphate ("the residue of the nitric acid process") with calcic hydrate (slaked lime):

$$2HKSO_4 + Ca''H_2O_2 = K_2SO_4 + Ca''SO_4 + 2H_2O.$$

The insoluble calcic sulphate, $Ca''SO_4$, is removed by filtration, and potassic carbonate is added to the filtrate to convert the excess of calcic hydrate into the insoluble carbonate. After a second filtration the solution, which now contains an excess of potash, is neutralised by sulphuric acid and evaporated for crystals.

Hydropotassic Sulphate, $HKSO_4$. (Acid sulphate of potassium; *Bisulphate of potash, $KO,HO,2SO_3$,* B. P.) This salt, not quite pure, forms the article to which the descriptive but clumsy name of "Residue of the nitric acid process" has been applied. In composition it is exactly intermediate between neutral potassic sulphate K_2SO_4 and the free acid H_2SO_4. Its production is noticed under the head of "Nitric Acid" (chap. vi. p. 98).

Ammonic Sulphate, $(NH_4)_2SO_4$. (Sulphate of ammonium; *Sulphate of ammonia, NH_4O,SO_3,* B. P.) This neutral salt which is mentioned in the appendix, is formed on the model of potassic sulphate, and contains two atoms of the pseudo-metal ammonium NH_4.

Cupric Sulphate, $Cu''SO_4$. Crystallised, $Cu''SO_4,5H_2O$. (Sulphate of copper; *Cupri sulphas, $CuO,SO_3 + 5HO$,* B. P.) In this well-known salt the bivalent atom of copper takes the place of the two hydrogen atoms of sulphuric acid. The Pharmacopœia directs that the sulphate of copper be purified for pharmaceutic use by re-crystallisation.

Mercuric Sulphate, $Hg''SO_4$ (*Sulphate of mercury HgO,SO_3,* B. P.) This salt resembles the last in constitution. It is prepared by heating metallic mercury with sulphuric acid.

Magnesic Sulphate, $Mg''SO_4$. Crystallised, $Mg''SO_4,7H_2O$. (Sulphate of magnesium; *Magnesiæ sulphas, sulphate of magnesia, $MgO,SO_3 + 7HO$,* B. P.) This popular medicinal salt affords another example of the union of a bivalent metallic atom with a bivalent acid residue.

OFFICIAL REPORT ON PRESERVED MEATS.

A Report by Mr. Francis Clare Ford, dated June 26, from Buenos Ayres on the methods employed in the provinces of La Plata for curing meats for the European markets, has just been printed at the Foreign Office, and as the preservation of meat is a subject to which much attention is now given by practical chemists and pharmaceutists, an abstract of this report will doubtless be interesting to many of our readers. Mr. Ford states that meat is sold in bulk, a leg of mutton costing from 10d. to 1s.; that the quantity is unlimited and the quality good, and that the failure of the meat in the English market is to be attributed to bad management, and not to the meat itself. He refers to the three methods of preserving associated with the names of Mr. John Morgan, Professor of Anatomy in the Royal College of Surgeons in Dublin, Baron von Liebig of Munich, and Mr. Sloper of London, who have, "by simple and efficacious adaptations of the principles of science to material purposes, made discoveries which open new fields of industry, and which, if carried out with proper energy and spirit, will work incalculable benefits on mankind, and at the same time develop the vast resources of these South American Republics."

With respect to Mr. Morgan's process, the writer states that although it has hardly progressed beyond the stage of experiment, it has been attended by signal success. Mr. Morgan's process is based on forced infiltration, and he has adopted the circulatory system of the body as a means of introducing the brine into the tissues. The method is simple, demands but little labour, and no expensive machinery. The animal, if a sheep, is killed by a blow on the head; if an ox, by the insertion of the point of a knife at the back of the head, which severs the spinal cord and causes instantaneous death. The chest is then sawn open, and kept so by a cross piece of wood, and the heart is exposed. An incision is made in the right ventricle and another in the left, the blood being allowed to escape; when it has ceased flowing, a pipe with a stopcock is introduced into the incision on the left ventricle of the heart, and so into the aorta or great vessel leading through the body, and is there firmly retained. This pipe is connected by a gutta percha flexible tube to a barrel containing the fluid to be injected, which is composed of water and salt (one gallon of brine to the cwt.) and a quarter to half a pound of nitre, carefully refined, and fixed at an altitude of from 18 to 20 feet. The briny fluid being let on, rushes out at the right side of the heart, after traversing all the circulatory organs clearing the vessels and capillaries, and preparing the body for the second stage, which is performed by closing the incision in the right side of the heart with a sliding forceps, and thereby rendering the circulatory system perfect, with the vessels free, and ready to receive the preservative fluid. A few seconds suffice for the brine to infuse the whole body, when, by cutting the ear or hoof of the animal, a stream of clear pure brine untainted by a single particle of blood will instantly be seen to flow. An ox can be preserved in ten minutes, the pressure of the injection being from 10 to 12 lbs. to the square inch, and from 12 to 14 gallons of the fluid are injected; of course considerably less in a sheep.

With respect to Liebig's process, the report states that it reduces 33 lbs. of meat to 1 lb. of essence, and that 350 head of cattle are slaughtered daily in the working of the establishment for working the "Extractum Carnis." According to the opinion of the Government reporter, the process by which the essence of the meat is extracted is simple, though requiring no small amount of labour and machinery. The meat of the animal, after being killed, is allowed to cool for twenty-four hours; it is then placed in round iron rollers (armed inside with points), which, being revolved by steam, reduce the meat to a pulp. This pulp is thrown into a large vat with water and allowed to steam for an hour, and is then passed into a reservoir (shaped like a trough with a sieve at the bottom), from whence the liquid of the meat oozes into another vat from whence the fat is drawn off. The pure gravy is then put into open vats supplied with steam-pipes, and with bellows on the surface, which produce a blast and carry off the steam, thus helping the evaporation and preventing condensation. Here it remains from six to eight hours, when it is passed into a filtering vat, and drawn off in the form of extract of meat. When cool it is ready for packing.

The third process described is that of Mr. Sloper who professes to be able to preserve meat in its fresh and raw state, which is to arrive in England, or elsewhere, in the exact condition as butcher's meat just killed, and be able to dispose of it at the rate of 4d. to 5d. per lb.: and that moreover, when taken out of the air-tight tins in which it is to be packed, and on being exposed in the air, it will keep twice as long as ordinary butcher's meat. The process is simple, and is based on the exclusion of oxygen from the vessel in which the meat is packed. All bone is extracted from the meat, but the fat is left. From the tins in which it is placed, the air is exhausted by means of water forced in at the bottom, which, when it reaches the top, is allowed to re-descend and run off, and the vacuum thus left is filled from above by a certain gas, the nature of which is kept a profound secret. The two holes at top and bottom are carefully soldered down, and the meat is then ready for exportation. The only risk it runs is from leakage, the smallest opening in the tin case proving destructive by allowing the gas to escape, and the air to get in.

VARIA.

The new science of celestial chemistry was admirably elucidated in the lecture delivered by Professor Huggins before the British Association, in the Nottingham Theatre. The title of the lecture, "On the Results of Spectrum Analysis, as applied to the Heavenly Bodies," was somewhat formidable, but the lecture, and the illustrations accompanying it, were of the most interesting character. The new knowledge which has been gained from observations with the prism was thus summed up by the Professor himself: — 1. All the brighter stars, at least, have a structure analogous to that of the sun. 2. The stars contain material elements common to the sun and earth. 3. The colours of the stars have their origin in the chemical constitution of the atmospheres which surround them. 4. The changes in brightness of some of the variable stars are attended with changes in the lines of absorption of their spectra. 5. The phenomena of the star in Corona appear to show that in this object at least great physical changes are in operation. 6. There exist in the heavens true nebulæ: these objects consist of luminous gas. 7. The material of comets is very similar to the matter of the gaseous nebulæ, and may be identical with it. 8. The bright points of the star-clusters may not be in all cases stars of the same order as the separate bright stars. Professor Huggins said it might be asked what cosmical theory of the origin and relations of the heavenly bodies did these new facts suggest? It would be easy, he confessed, to speculate, but it would not be philosophical to dogmatise on a subject of which we know so very little. Our views of the universe were undergoing important changes, and we should wait for more facts, with minds unfettered by any dogmatic theory, and, therefore, free to receive the obvious teaching, whatever it might be, of new observations. Star differed from star in glory; each nebula and cluster had its own special features; doubtless in wisdom and for high and important puroses, the Creator had made them all.

Dr. Richardson contributed to the Physiological Section of the British Association an important paper, entitled, "Physiological Demonstrations of Local Insensibility," the object of which was to show that trying surgical operations may now be performed without causing the slightest pain. Dr. Richardson himself and the President of the Section were the subjects of the practical illustrations of local anæsthesia.

Mr. W. Hooper read before the Mechanical Section a paper on "The Electrical and Mechanical Properties of Indiarubber Insulated Wire," in which he detailed his invention for securing the perfect insulation of submerged electric cables by substituting indiarubber for gutta percha as an insulating material. The wire is first covered with a layer of pure rubber, and then by thick alternate coatings of vulcanized rubber and felt, by which electrical insulation is perfectly secured. Wire thus covered is eminently suited for electric cables in warm climates, as indiarubber retains its insulating property even when placed in boiling water, whilst the best gutta percha becomes practically useless at 100° F. A cable constructed on Mr. Hooper's principle is now being laid between India and Ceylon.

A paper on "Magnesium Lamps" was contributed to the Chemical Section by Mr. H. Larkin. Two of the author's lamps had been exhibited at the *conversazione* of the Association, when the light was much admired. From the paper it appeared that the distinguishing peculiarity of these lamps is that they burn magnesium in the form of powder, instead of riband or wire. The metal powder, mixed with a little fine sand, passes in a regular stream through a tube which also conveys gas. The powder and gas escape together at the mouth of the tube, and having been ignited, they continue burning with an intensely brilliant flame. The author stated that the present price of the light was £1 per hour.

Among the grants of money for scientific purposes, recommended by the General Committee of the British Association, were the following :—Electrical Standards (Professor Williamson), £100; Sound under Water (Dr. Robinson), £30; Physiological action of the Ethyl and Methyl series (Dr. Richardson), £25; Metrical Committee (Sir J. Bowring), £30.

THE MONTH

UNITED SOCIETY OF CHEMISTS AND DRUGGISTS.

The Secretary of this Society has sent us the following reports for publication :—

SPECIAL MEETING OF THE EXECUTIVE COMMITTEE, SEPTEMBER 18, 1866.

Present: Mr. Anderson in the chair; Messrs. Betty, Buott, jun., Crotch, Heppell, Lacey, Lewis, Salter, and Warden

Mr. Anderson asked permission to lay before the meeting a series of resolutions as a programme of the future policy of the Committee, which being agreed to, the same were duly passed, as follows :—

1st Resolution. That the wishes of the trade as enunciated at the annual meetings of the Society shall govern the proceedings of the Executive Committee.

2nd. That the accounts of the Society be prepared to the present date, with a view to ascertain their condition, and to give effect to the financial duties of the treasurer or treasurers of the Society.

3rd. That a finance committee of five members be nominated by the Executive to meet as often as they think fit, but never less than once in each month, to pass the accounts of the Society, and to transact its monetary business.

Messrs. Betty, Pass, Crotch, Anderson, and Heppell, were appointed upon this committee.

4th. That an accurate report of the proceedings of every meeting be taken by the Secretary's amanuensis, which report shall, at the close of each meeting, be read and confirmed by the Chairman, and be subject to the like process at the meeting next following.

5th. That a publication committee of five members be appointed to revise reports and all other publications in the name of the Society.

Messrs. Betty, Crotch, Anderson, Pass, and Buott, jun., were appointed to form the publication committee.

6th. That a bye-law committee of five members be appointed to arrange the bye-laws of the Society, and to prepare those which in future may be submitted for consideration.

Messrs. Lewis, Venman, Salter, Warden, and Yeats, were appointed to form the bye-law committee.

7th. That the action and government of the sub-committees shall be regulated by the decision of the Executive, to whom they shall report progress from time to time.

8th. That the rules of the Society shall occupy the immediate attention of the Executive Committee.

9th. That the question of instituting a board of examination be discussed at the earliest possible period.

Upon the adoption of the ninth resolution, the meeting, after a protracted sitting, adjourned to the following Tuesday.

ADJOURNED COMMITTEE MEETING, TUESDAY, SEPT. 25, 1866.

The Committee proceeded to consider Mr. Anderson's further resolutions, as follows :—

10th. That the trustees shall have every facility for efficiently carrying out their trust. They shall be subject to interrogatories from the members, and also from time to time give such information as may be deemed necessary.

11th. That the annual banquet in aid of the Benevolent Fund shall be held not later than the month of February next, and that the following gentlemen be a committee to make the arrangements and to report thereon to the Finance Committee, viz., Messrs. Betty, Baumgarten, Pass, Lacey, and Anderson.

12th. That the Benevolent Fund shall have the attention of the Executive with a view to its increase.

13th. That the Committee recognises neither the right nor the intention on the part of its officers to act otherwise than in accordance with their instructions, and it is determined that in all its deliberations and in all its acts the interests of the Society shall be its first consideration.

14th. That Mr. Buott be requested to resign the representation of Sheffield upon the Executive Committee. This resolution was not formally put to the meeting, but Mr. Buott expressed his willingness to comply with the wishes of the Committee upon obtaining the consent of his constituents.

15th. That Mr Buott's past services be considered and dealt with, and his future salary appointed as Registrar and Secretary of the Society; and that Messrs. Betty, Salter, Warden, and Anderson, form a sub-committee to confer with Mr. Buott upon the subject.

16th. That to obtain an Act of Parliament for the incorporation of every unincorporated chemist and druggist in the trade shall now constitute the main business of the Committeee.

17th. That in reference to the repeated offer of Mr. Anderson to provide funds for the establishment of an organ to advocate the interests of the Society, this Committee, bearing in mind the vital importance of the subject, recommend that an early meeting be appointed to take the same into special consideration; and that in the meantime the best thanks of the Society are due to Mr. Anderson for his generous offer.

Before the meeting separated, the Secretary invited the attention of the Committee to his departure for the provinces. He felt, he said, much anxiety under the peculiar circumstances of the Society, and he trusted to have the support and encouragement of the Executive Committee whilst discharging the responsible and onerous duties they had entrusted to him. Each member of the Committee assured the Secretary of his good wishes and sympathy, and an earnest hope was expressed that whilst endeavouring to cement the members of the Society in brotherly union, and to direct their confederated energies to a speedy incorporation of the trade, he would meet with the cordial support of every chairman and honorary secretary of the Society.

EXECUTIVE COMMITTEE MEETING, OCTOBER 4, 1866.

Present: Mr. Pass in the chair; Messrs. Anderson, Lewis, Baumgarten, Salter, Yeats, Lacey, Buott, jun., Betty, Freeman, and Heppell.

The Secretary informed the meeting that during the short interval that had intervened since he had received their instructions to visit the provinces, he had been a few days from London, and was happy to state that he had found a perfectly loyal and friendly feeling existing amongst the members of the Society he had seen.

The Secretary said that, in accordance with their instructions, he had provided an amanuensis, who would record the proceedings of the meeting.

A communication from Sunderland was read, which embodied a resolution fervently expressing the desire of the members of that Association that the present Executive will be firmly supported by the different branches of the Society as well as the London members.

The Secretary then proceeded to read minutes of the Committee meetings held on the 5th, 18th, and 25th ult.

Mr. Anderson wished certain questions respecting the Benevolent Fund, with the answers thereto, to be embodied in the minutes for reference if necessary, which, on the suggestion of Mr. Buott, jun., was agreed to.

The Secretary then read the minutes of the proceedings of a Special Committee Meeting appointed to consider the past services and future salary of the Registrar and Secretary.

Mr. Anderson then laid before the Committee the Report of the sub-committee appointed to consider the Registrar's and Secretary's claim upon the Society.

The Report stated that the sub-committee had taken up the question with the determination to deal with it, and that they had been relieved from much difficulty by the generous declaration on the part of Mr. Buott, that he would exonerate the Executive Committee from all responsibility in relation to his past services, and that he should place himself entirely in their hands for the future. The Report further added that, by a mutual arrangement, Mr. Buott's future salary would be regulated by the success and means of the Society; and that the sub-committee had much pleasure in announcing that this very difficult and delicate question had been satisfactorily arranged and set at rest.

The Chairman expressed his entire approbation of the Report, and his gratification of Mr. Buott's renunciation of his claim.

Mr. Lacey moved, and Mr. Lewis seconded, that the Report of the sub-committee be received and adopted, which, being put to the meeting was carried unanimously.

A vote of thanks to the Chairman closed the proceedings.

C. Buott,
Registrar and Secretary.
20, New Ormond Street, W.C., Oct. 10th, 1866.

SUNDERLAND.

September 28th, 1866.

Dear Sir,—I have the honour to transmit to you a copy of a Resolution passed at a meeting of this branch of the United Society, held on Wednesday evening last.

I have the honour to remain, dear Sir,
Your most obedient servant,
W. B. Harrison.

To H. Matthews, Esq., F.C.S.,
Chairman United Society of Chemists
and Druggists, London.

Copy of a Resolution passed at a meeting of the members of the Sunderland Branch of the United Society of Chemists and Druggists, held at Mr. Gray's, Crown and Sceptre Hotel, on Wednesday evening, 26th September, 1866.

Moved by Mr. R. Robinson, and seconded by Mr. J. Letbe—"That this meeting, having seen with considerable pain and anxiety the late dissensions in the Executive Committee of the United Society, are glad to observe that at the late annual meeting the cause of such dissension has been removed, and trust that, such being the case, the present Executive will be firmly supported by the different branches, as well as by the London members."

Carried unanimously.

The Secretary was instructed to send a copy of the above resolution to the President of the United Society.

Harrison Thompson, Chairman.

[A series of Resolutions adopted by chemists and druggists of York will be found in our correspondence appended to Mr. Hayland's letter. Ed. C. & D.]

GOSSIP.

We are sorry to find that several members of the press have imitated the writer in the *Standard*, and attacked chemists and druggists because a lady at Wardley was accidentally poisoned by her medical attendant. "How comes it," asks the leader-writer of *Lloyd's*, "that there are hundreds of ignorant dispensing chemists among us, any one of whom may, at any moment, doom us to the torments which 'a mistake' imposed on Mrs. Simkin?" We ask in return: Was this mistake committed by an ignorant dispensing chemist? Are such mistakes generally made by dispensing chemists? There are numerous dispensers employed by medical men who may also doom patients to torments. What does the leader-writer think of the following advertisement, which we cut out of the *Telegraph* of Sept. 25th?:—"Medical.—Wanted by the advertiser, aged 21, a situation as Indoor Servant to a Medical Man. Can dispense. Town or Country."

On the 1st of this month an Act of Parliament came into force for the better prevention of disease at military and naval stations. Hospitals are to be provided, and visiting surgeons appointed. The expenses to be defrayed by Parliament.

The imports of cochineal from the 1st of January to the 1st of September last amounted to 4,662 bags of Honduras, 870 bags of Mexican, and 6,460 bags Teneriffe, making a total of 11,992 bags; the deliveries to 3,928 bags of Honduras, 809 bags of Mexican, and 7,852 bags of Teneriffe, making a total of 12,589 bags; and the stock in hand to 2,687 bags of Honduras, 666 bags of Mexican, and 1,709 bags of Teneriffe, making a total of 5,062 bags. The imports to the same period last year amounted to a total of 8,635 bags, the deliveries to 10,664 bags, and the stock on hand to 4,939 bags.

American papers represent that an Italian has been arrested in New Orleans charged with murder, it being alleged that on his finger he wore a ring with a snap-claw in it filled with deadly poison. A scratch with it would cause death in three hours.

At the commencement of the month an inquest was held respecting the death of a Scotch lady, who destroyed herself while in a state of temporary insanity, by taking three drachms of laudanum. The medical man who was called in to see the deceased said, during his examination, that he did not think that the chemist ought to have supplied so much laudanum to the deceased's servant. The chemist, Mr. H. Medsall, of the Minories, explained, to the satisfaction of the jury, that he refused to give the servant six drachms, and that he would not have given her three drachms, only that he knew that her master kept a large lodging-house, and he thought that it was required in case cholera broke out.

GAZETTE.

BANKRUPTS.

Aymer, D., Wednesbury, Staffordshire, chemist.
Fletcher, Richard Thomas, Hailsham, Sussex, surgeon.
Hardman, T., late of Heywood, Lancashire, medicine vendor.
Hardy, Robert, Grantham, Lincolnshire, veterinary surgeon.
Jope, G., Minehead, Somersetshire, druggist.
Phelps, W. H. G., Burnham, Somersetshire, doctor of medicine.
Rule, Henry Oliver, Saffron Walden, Essex, veterinary surgeon.
Stanley, J., late of Old Gravel-lane, St. George's-in-the-East, chemist.
Wood, H., Kingswinford, Staffordshire, chemist.

PARTNERSHIPS DISSOLVED.

Ellis, R. J., and Co., and Frank, J. M., and Co., manufacturing chemists.
Lobb, Hogg, and Hammond, Aldersgate-street, surgeons; as far as regards W. Lobb and F. J. Hammond.
Medhurst and Milward, Nottingham, soda-water manufacturers.
Miller, Dossor, and Co., Kingston-upon-Hull, drysalters.
Sargant and Kelsey, Reigate, surgeons.
Wilkinson and Holme, Stockport, Cheshire, chemists.

SCOTCH SEQUESTRATIONS.

Dunbar, H., Glasgow, doctor of medicine.
Gibb, D., Edinburgh, chemist.

EXHIBITION OF OBJECTS RELATING TO PHARMACY.

In our article on the Exhibition held at Nottingham during the meeting of the British Pharmaceutical Conference, we expressed our intention of reproducing the Report of the Committee specially appointed to prepare a permanent record of the interesting collection of objects exhibited. We find that the Report, unabridged, would take up more space than we have at our disposal, but by omitting the introductory remarks and minor details, we reduce it to a convenient length without affecting its completeness as a classified list of the varied articles included in the exhibition.

CLASS I.

OBJECTS REPRESENTING NOVELTIES OR IMPROVEMENTS IN PHARMACEUTICAL PROCESSES, INCLUDING APPARATUS.

Ash, Moses, 4, Bull-street, Birmingham.—Two small microscopes.

Attfield, Dr. J., 17, Bloomsbury-square, London.—A set of brass metric decimal weights, as used in the pharmacies of France and other countries; a set of iron metric weights, as used by grocers; a draper's metre measure; a specimen of the jointed metre measures, used by carpenters; a 10-metre measuring tape; a set of metric pewter measures, from the double litre to the centilitre; a set of wooden metric measures for seeds, etc., from a decalitre to a decilitre; a set of brass and platinum metric weights, and glass rough and fine metric measures, as used by analytical chemists in all civilized countries; medicine bottles for holding metric decimal quantities; several French prescriptions, illustrating the use of metric decimal weights and volumes. Gold, silver, and copper decimal coins current in France and Italy, their diameter, weight, etc., adjusted on the metric decimal system. An American coin, 5 cents in value, 5 grammes in weight, and 2 centimetres in diameter. (See Dr. Attfield's Paper, C. and D., vol. iii., p. 147.)

Ball, E. W., Birmingham.—Gore's gas furnaces; Bunsen's gas-burners, retort-stands, blowpipes, cork-borers, test-tube-holders, and tube-supports. (Gore's gas furnace is described and figured in C. and D., vol. iv., p. 224.)

Basford Chemical Works.—Large model of works for the manufacture of oil of vitriol and other acids. This excellent model was made by a working man.

Bevan and Fleming, Liverpool.—Thermoterion, or heating apparatus for infants' and invalids' food.

Bourne, Stephen.—Patent flexible diaphragm for the preservation of liquids liable to be injured by exposure to air, patent elastic valves for controlling and regulating the passsge of air, gas, etc.

Casella, L. P., London.—Mural standards of measure, having metrical and English systems side by side.

Clark, G. E., manufacturer, Nottingham.—Case containing elastic silk appliances, chiefly abdominal belts and stockings, chest protectors, trusses, and enema apparatus.

Cliff and Co., Lambeth.—Stoneware chemical apparatus, still, water filters, leech jars, infusion and extract pots, stone Woolfe's bottles, stoneware taps, and displacement apparatus.

Deane, Henry, London.—Displacement apparatus in copper and stoneware (*vide* Ph. J. v. N.S., p. 544), new gas furnace for economizing heat in Pharmaceutical operations, also a Chinese charcoal stove in biscuit-ware, used by the stall-keepers in the streets of Canton for boiling water for their tea.

Doulton and Watts, Lambeth.—Deane's displacement apparatus in stoneware.

Giles, R. W., Clifton.—Arrangement for exhaustion of vegetable substances in a minimum of water. This apparatus was described by the inventor in a paper read before the Conference, and it is specially adapted for the manufacture of liquor cinchonæ. (See C. and D., vii., p. 147.)

Harvey and Reynolds, Leeds.—Model of mechanical apparatus for stirring liquids during evaporation, to be driven by steam or other convenient power. An ingenious form of stirrer is here exhibited, somewhat like the letter S. The stirrer itself is moveable and can be changed at pleasure. (See C. and D., vol. vii., p. 147.) A portable galvanic machine (French) for medical purposes. The elements employed are zinc and carbon, which are excited by moistened persulphate of mercury, giving a constant current.

Haywood, J. S., and Sons, Castle Gate, Nottingham.—Case of ebonite manufactures, comprising various forms of syringes, stethoscopes, pessaries, ear trumpets, etc., to which this comparatively new material is applicable. Elastic bandages and stockings in silk and cotton.

Heaton and Sons, Birmingham.—Specimens of the decimal copper coinage manufactured for Italy. The values accorded with those of France, their weights, diameter, etc., being on the metric decimal system.

Johnson and Sons, London.—Series of platinum crucibles, platinum spatula for pocket, platinum-wire net for straining and electroplating operations; platinized copper bowl for counter or laboratory use; small and cheap platinum spoons for blowpipe experiments, especially useful for students; various preparations of platinum; silver crucibles, basins, and funnels. A rare specimen of iridescent metallic bismuth is included in the series.

Krohne and Sesemann, manufacturers, 241, Whitechapel Road, London.—Large series of Dr. Richardson's anæsthetic apparatus, one with reservoir and double tube for major operations. Dr. Clark's spray producer, and Beigel-Siegle's inhalers for aqueous or other vapours, fitted with a variety of heating contrivances. One portable form of the latter instrument for the use of travellers. Appliances made from the stem of Laminaria digitata, dilating bougies, lachrymal duct bougies and tents, Dr. G. Johnson's laryngoscope, Morell Mackenzie's laryngoscope, stem and ring pessaries in gutta-percha and vulcanite; also new instruments for applying powdered medicaments.

Mather, Hugh, London.—Glass blowpipes, various; gas furnaces, some exhibiting the principal of aerated gas; heating apparatus; lamps for microscopes, etc.; model of still.

Maw, S., and Son, manufacturers, 11, Aldersgate Street, London.—A large collection of surgical and medical instruments and appliances. Amongst enema apparatus may be noticed the pattern known as Kennedy's, both single and double action, with plated fittings. Eguisier's *irrigateur*, with other well-known forms of brass syringe; globe pessaries in ivory; expanding india-rubber pessary, with syringe attached; ear syringe, with shield and speculum; various cases of surgical machines, including a complete major operation case; a set of electro-gilt midwifery instruments of high and exquisite finish; a set of silver catheters; dental and post-mortem instruments; two electric-magnetic machines, on the American pattern, one fitted with single and the other with double magnet; Labordette's laryngoscope; Bank's elastic urinal, the old glass form, with india-rubber fitting and stop valve; earthenware inhalers; Clark's pulverizer; Dr. Richardson's apparatus for the application of ether as a local anæsthetic, with electro-gilt tubes arranged with handball and foot bellows. Vaginal specula, tongue depressors, opthalmoscopes, and breast pumps, complete the series.

Morton and Son, London.—Spring measuring tapes, with metrical divisions on one side and English inches on the other; pocket pencils and knives, with centimetres and inches side by side engraved thereon.

Murray and Heath, Jermyn Street, London.—Pocket microscope, with folding tripod, and English achromatic objective, length 7½ by 3, depth 7½ by 2; also demonstrating class microscope, with lamp attached. Improved portable polariscope.

Parrish, Edward, Philadelphia, U.S., N.A.—Improved gas furnace, tin distillatory apparatus, and water-bath, etc., suppository and pessary moulds, and a new shape for spreading breast plasters; a small and ingenious vaccinator, which has been patented.

Pontier (L. André-Pontier), 24, Boulevart du Temple, Paris.—Kessler's evaporating and distillatory apparatus, called by the inventor the Erorator, consisting of a series of superposed vessels, each connected with a refrigerator common to all, and so arranged as to economize the whole of the heat employed, and ensure the perfect condensation of the vapour raised, whether of water or alcohol, plain or medicated. It is further adapted for the inspissation of all kinds of extracts at a low temperature, for the crystallization of salts at fixed temperatures, and when made of platinum, for the distillation of sulphuric acid; a convenient apparatus on the same principle, for the assay of wines; model of a drying closet to be heated with gas; sundry gas furnaces for use with the apparatus above mentioned; an ingenious water-bath apparatus for spreading plasters.

Robbins and Co., London.—Registered inhalers in porcelain, and Dr. Richardson's anæsthetic spray producer. (See C. and D., vol. vii., p. 92.)

Sadler, N., Birmingham.—Medical electrical apparatus.

Savory and Moore, New Bond Street, London.—Improved eye douche and ear douche; portable enema and injection apparatus. (See C. and D., vol. vii., p. 59.)

Scott, Wentworth L.—Apparatus for producing ammonia from air, and alcohol from olefiant gas.

Squire, Peter, London.—Set of imperial weights, with metrical equivalents engraved thereon; set of decimal grain weights.

Stanford, E. C. C., Glasgow.—Specimens illustrating Stanford's patent process of treating seaweed by destructive distillation. (Vide paper in Pharm. Journ., N.S. vol. iii., p. 495, and Mr. Draper's Report on Dublin Exhibition, C. and D. vol. vi., p. 105.)

Sutton, Francis, Norwich.—Twelve Mohr's burettes, graduated in cubic centimetres and decems, with Erdmann's floats; two revolving stands of new and convenient shape, to carry six burettes each; stoppered graduated flasks and test mixers; standard volumetric solutions of the British Pharmacopœia; new blowing burette for solutions which are affected by the india-rubber in the usual Mohr's burette, such as permanganate of potash, etc. The graduation of these instruments is guaranteed to be very correct.

Yates, James, Highgate, London.—Dowling's large diagram, on rollers, showing drawings and numerical relations of all kinds of metric decimal weights and measures of both length and capacity; a surveyor's metric decimal land chain and tape; a spring-jointed metre measure; models and tables for use in teaching the metric decimal system in schools.

CLASS II.

MEDICINES SIMPLE AND COMPOUND, DRUGS AND CHEMICALS.

AMERICA.—The committee desire with both hands to shake hands with their esteemed American brethren. They fully appreciate the good feeling evinced towards them by the collection forwarded from across the Atlantic to this the first Exhibition of the British Pharmaceutical Conference, nor could it have come under better sanction than the name so well known in practical pharmacy as that of Professor E. Parrish, Philadelphia. The list includes :—

1. BAKES, WILLIAM C., of Philadelphia.—A volume of American labels, comprising dispensing and other trade labels, together with a great variety used for pharmaceutical preparations.

2. PARRISH, Professor EDWARD, of Philadelphia.—One half-gallon metallic pharmaceutical still ; a patent gas furnace for pharmaceutical purposes ; breast plaster pattern ; vaginal and rectum suppository trays ; patent vaccinator ; sundry interesting pharmaceutical preparations and specimens of dispensing bottles and boxes, with illustrations of the mode in which medicines are sent out by pharmaceutists in America.

3. SQUIRE AND Co., of Cincinnati.—A variety of pharmaceutical preparations.

4. STEARNS, FREDERICK, Detroit.—A variety of pharmaceutical preparations.

5. WARNER, WILLIAM R. AND Co., Philadelphia.—A handsome case containing ninety varieties of pills, prepared according to the Pharmacopœia of the United States, and other recognised formulæ. The peculiarity which these pills present is, that they are all sugar-coated.

BAISS, BROTHERS, 102, Leadenhall-street, London.—A selection of choice gums, amongst which are ammoniacum (guttæ) ; assafœtida, guaiacum, myrrh, scammony, and tragacanth. Various samples of Materia Medica, including anisi sem. stellat. ; anthem. ang. flor. dupl. ; calumbæ. rad. ; cardam. sem. ; cascarillæ cort. ; cinchon. lancifol. ; dolichos ; rhei pulv. E. I. ; and recini sem. Also one chemical, ferri sesquioxyd. prep., for account of which see "Lancet," Oct. 29, 1864.

BARR AND Co., London.—Cod-liver oil dragées.

BASS AND SON, Hatton Garden, London.—Liquor sarzæ Jam. comp. concent. (1 to 7) ; liquor cinchonæ pallid. (1 to 32) ; liquor taraxaci, prepared entirely without the aid of heat ; liquor papav. alb., liquor rhœados, liquor croci, 1 part with 4 parts of syr. simp. form the P. L. syrup.

BEAUFOY AND Co., South Lambeth, London.—Acetate of lime ; pure acetate of soda, from which their acetic acid is made ; acetic acid, British Pharmacopœia ; glacial acetic acid ; malt, from which their vinegar is made ; pale vinegar of normal colour, and coloured vinegar, as the public in general will have it.

BELL, J., AND Co., Oxford-street, London.—Cases of suppositories and pessaries ; also samples of medicated cottons. (See C. and D., vol. vii., p. 91.)

BISHOP, MR., Mile End, New Town, London.—Various granular medicinal preparations.

BOSLEY, JOHN L., Brompton-road, London.—Case of suppositories and pessaries. (See C. and D., vol. vii., p. 71.)

BRADY, H. B., Mosley-street, Newcastle-on-Tyne.—Medicated pessaries and suppositories, prepared with theobroma oil (*Beurre de Cacao*).—Soluble bougies, variously medicated, as recommended by Mr. Henry Thompson, F.R.C.S., for use instead of fluid injections in chronic gonorrhœa and gleet ; sponge tents prepared according to the directions of Dr. Marion Sims. For dilating the *os uteri*, Dr. Sims employs sponge saturated with thick mucilage, and compressed into the form of solid elongated cones, about two inches and a half in length, and then dried. After drying, the surface is finished, and rendered quite smooth by means of sand-paper ; capsules of oil of male-fern, *extractum filicis liquidum*, put up in capsules of gelatine, each containing twenty minims. (Consult Mr. Brady's paper on medicated pessaries, Pharm. Journ., vol. vii., p. 544, N.S.)

DAVIS, Harrogate.—A case containing tubes, exhibiting at a glance the relative saline residues of a pint of each of the Harrogate waters.

DAVY, YATES, AND ROUTLEDGE, 100, Upper Thames-street, London.—Ferri et quiniæ citras ; ferri et ammoniæ citras ; ferri percitras, in fine garnet-coloured scales ; ferri pyrophosphas, in beautiful golden green scales ; iodo-cyanide of potassium and mercury ; hydrarg. subcloridum, prepared *à la vapeur ;* hydrarg. ammoniatum and hydrarg. biniodidum ; benzoic acid made from gum benzoin ; potass. permanganas, in fine iridescent needles ; iodide and bromide of cadmium ; bromide of ammonium and chloride of gold ; valerianate of iron, made according to the process of the Dublin Pharmacopœia ; naphthaline ; bismuthi et ammoniæ citras ; potassæ boro-tartras (soluble cream of tartar) in scales ; acetate of amyl (essence of pear), valerianate of amyl (oil of apple), and butyrate of ethyl (essence of pine-apple), are the principal ingredients used in the manufacture of the fruit essences, which are now made in such considerable quantities ; *podophyllum peltatum*, or May apple ; podophyllin ; assacu bark. a native of Brazil.

DUNCAN AND Co., Edinburgh.—Cases of suppositories, pessaries, and white gutta-percha enamel.

EWEN, MESSRS. London.—A series of clarified fats and purified olive oil.

GROVES, T. B., Weymouth.—Specimens of aconitia and its salts.—(See abstract of paper in connection with these preparations, C. and D., vol. vii., p. 135.)

HANBURY, DANIEL, Plough-court, Lombard-street.—A case of medicinal fruits derived from the order *Scitamineæ*, including the official or Malabar cardamom, Ceylon cardamom, round or cluster cardamom, Java cardamom, Xanthioid cardamom, hairy China cardamom, bastard melligetta, korarima cardamom, true melligetta or grains of paradise, Pereira's amomum, galanga cardamon, large round China cardamom, ovoid China cardamom, and bitter-seeded cardamom.

HARVEY, T., Leeds.—Jamaica products, viz. : Croton humilis, eupatorium sp.?, gum of cashew tree, and cassada starch.

HAYWOOD AND SON.—Bell of carbolic acid crystals.

HEARON, M'CULLOCH, AND Co., 5, Coleman-street, London. —A series of the leading drugs, selected from a number of samples forwarded to us by a merchant in China, for the purpose of ascertaining their market value in this country. They have been examined both by Dr. Lockhart and Daniel Hanbury, Esq., who state that although they meet with a ready sale in China, and are considered useful remedies, they possess few properties sufficiently prominent to render them important as medicinal agents amongst ourselves—none to qualify them to displace those we are accustomed to see prescribed in this country ; and must, therefore, be regarded as mere curiosities. They are mostly infused, and taken in combination in considerable quantities, and possess, in some slight degree, either tonic, stomachic, or demulcent properties. We are indebted to Dr. Lockhart for the names attached, as he kindly undertook to interpret the characters for us. The other specimens comprise ordinary drugs, but marked by some striking feature—such, for instance, as an original thread of Spanish flies, tied together in one large bunch. There is also an original string of small Vera Cruz jalap, and a selected sample of the same ; also a well-defined specimen of the Tampico, etc., etc. The essential oils (otto ?) of roses and elder-flowers are curious by reason of their scarcity and costliness, the product of either being so small, that if the flowers were distilled for the purpose of obtaining these alone, and not as bye-products, their respective values would amount to about £20 per oz. The quantity of otto of roses exhibited is the result of the distillation of about 300 bushels of flowers. Elder-flowers do not yield nearly so much in proportion, and therefore it would not have been commercially practicable to prepare the water as recommended by the London College in their Pharmacopœia of 1836, viz., by using 2 drachms of the essential oil as a substitute for 10 lbs. of the flowers, for this would be equivalent to to a very much larger quantity. The concentrated infusions, preserved juices, liquid and solid extracts, comprise the leading preparations of both the London and British Pharmacopœias, placed side by side for the purpose of contrast.

HOPKINSON, T., Grantham. — Case containing various mineral waters, including those of ammonia and Bismuth.

INGRAM AND Co., London.—A large collection of foreign mineral waters, lozenges, and salts.

LIVERPOOL CHEMISTS' ASSOCIATION.—A fine series of isinglass and gelatine, forwarded from their own museum.

MEGGESON AND Co., Manufacturers, London.—Seventeen specimen bottles of medicated lozenges, including those introduced into the British Pharmacopœia.

Morson and Son, London.—A few specimens for exhibition, comprising globules containing pepsine, pancreatine, and charcoal; specimens of meconine and narceine; a specimen of podophyllin or purified resin of the root of the May apple; a specimen of the oil and seeds of the Argemone Mexicana; a specimen of pepsine prepared by a modification of the process of Dr. Pavy, by which, if carefully followed out, the greatest digestive activity of this body appears to be obtained; a preparation from the cuticle of wheat, to which the name of saccharated wheat phosphates has been given.

Mottershead and Co., Manchester.—Oxy-azotized water.

Ransom, W., Hitchin.—Scammony root and resin.

Robbins, J., Oxford-street, London.—Anæsthetic ethers, oxygenator, and charcoal capsules. (See C. and D., vol. vii., p. 92.)

Savory and Moore, London.—Handsome plant of Datura Tatula, with specimens of cigars, cigarettes, and cut Datura Tatula, recommended for smoking in acute or chronic asthma. Cases of suppositories and pessaries, prepared with theobroma oil or cacao butter. Soluble bougies, medicated, recommended as substitutes for fluid injections in chronic gonorrhœa, etc. Medicated gelatine disks, prepared as suggested by Mr. Ernest Hart for ophthalmic purposes. Specimens of narcotine and isatine. Anæsthetic fluids, and apparatus for administering the same, made according to the directions of Mr. Robert Ellis, for use in obstetric surgery. Pancreatic emulsions, and various pancreatised preparations (see C. and D., vol. vii., p. 6), and a new form of Liebig's food for infants.

Schacht, G. F., Clifton.—New filter for pharmaceutical purposes; plasma, two samples—one recently prepared, the other made in December, 1865, and exhibited for the purpose of showing that, although kept in an ordinary covered pot, it had retained its beauty and consistence well. (See C. and D., vol. vii., p. 146.)

Smith, Messrs. T. and H., Edinburgh and London.—Thebolactate of morphia; gallic acid, nearly colourless; tannin, readily and perfectly soluble; aloin, crystalline tufts of the cathartic principle of aloes; aconite sugar or mannite.

Smith and Co., Fell-street, London.—Thirty specimens of medicated lozenges; patented perforated liquorice, that may be easily broken into fragments for use; blight pastille and fumigator.

Southall, Son, and Dymond, Bull-street, Birmingham.—Two cases, containing sixteen samples of opium and nine samples of scammony, with analytical tables showing the proportions of their most important constituents, together with the market price of each sample. This firm also exhibited specimens of some of their iodine and bromine preparations, viz., iodide of ammonium, iodide of potassium (both crude, fused, and crystallized), bromide of ammonium, and bromide of potassium.

Tuck, John, Wilton, Salisbury.—Samples of adulteration placed at his service by the courtesy of the Hon. Board of Inland Revenue, including methylated tinctures and cordials, adulterated tobacco, sophisticated wine, etc.

Wagner, Dr., Pharmaceutical and Chemical Establishment in Pesth, Hungary. Founded 1836. Flores papaveris, F. tiliæ, F. verbasci, Fol. belladonnæ, F. hyoscyami; extractum belladonnæ, extractum cicutæ, extractum hyoscyami; Cognac oils; oleum chamomillæ, manufactured from best chamomile flowers; oleum juniperi, oil of juniper berries; roob juniperi, a bye-product of the distillation of juniper oil; oleum melissæ, finest balm oil, produced from garden balm herbs; spiritus terebinthinæ, with very little smell; syrupus violarum, very fragrant and of good colour; "tellur metal," only manufactured in this establishment; ferrum dialysatum (oxydatum solutum in aquâ).

Whittles, Birmingham.—Several specimens of nickel and cobalt ores.

Yates, James, F.R.S.—The male cone and two leaves of cycas revoluta.

CLASS III.

THE GENERAL APPLIANCES OF A PHARMACY, DIETETICS, AND MISCELLANEA.

Adams, J., Loughborough.—Old books relating to pharmacy, amongst which is a copy of Gerard's "Herbal" (dated 1597).

Attfield, Dr. J., London.—Stereoscope and eight slides of the institution and grounds of the School of Pharmacy, Paris. Twelve photographs of professors and assistant-professors of the School of Pharmacy, Paris. An album containing portraits of the prominent members of the British Pharmaceutical Conference.

Chevallier, M.A., Paris (through Dr. Attfield).—A copy of the third edition of his work on "The Adulteration of Dietetic, Medical, and Commercial Substances."

Gardner, J. F., Esq., Leicester.—Three vases of skeleton bouquets; also a book of dried ferns collected in 1864-1865.

Gillon, John, and Co., Leith.—Case containing preserved meats, including beef, mutton, chicken, and other dietetic preparations. Concentrated meat lozenges are in this series.

Greaves, A., Ironville.—Model label damper.

Hadlow, F. V., Brighton.—Patent new boxwood linen markers, with ink and specimens of work.

Hardwicke, R., London.—A collection of scientific and other publications, amongst which may be noticed a table of the elements arranged by J. Carter Bell.

Harvey and Reynolds, Leeds.—Extractum carnis, prepared by the process of Baron Liebig in steam apparatus from English beef.

Howie, W. L., Glasgow.—Poison bottle locks and retail labels for poisons. The peculiarity in the latter is that the word poison is printed in conspicuous red letters over the ordinary label.

Ince, J.—Dispensing knives.

The Liverpool Chemists' Association send a copy of Howard's "Illustrations of the Nueva Quinologia of Pavon," with coloured plates; also an atlas of dried British cryptogamia, comprising filices, equisetaceæ, musci, and lichenes.

Matthews, W., London.—Tinted wax papers, as a substitute for tinfoil, to protect pomades and ointments.

Maull and Co., London.—A series of portraits of celebrated individuals, chiefly pharmaceutists.

The Liverpool Chemists' Association have also contributed portraits of eminent men.

Mr. Deane, of Clapham, supplied an album containing portraits of leading American pharmaceutists, chiefly officials in their Association.

Maw and Son, Aldersgate-street, London.—New form of poison bottle, the peculiarity of which consists in its having a perforated stopper fitted with a spring clamp embracing the neck, and easily worked by finger and thumb.

Merrikin, J., Beaufort Buildings, Bath.—Poison bottle, described in his paper delivered at the meeting of the Pharmaceutical Conference in his own city.

Morton, G. and J., 39, Cheapside, London.—Patent universal siphon for effervescence.

Parsons, Richardson, and Co., Leicester.—Specimens of gelatine bottle capping as originated and prepared by them.

Reynolds, R., Leeds.—Precautions against accidental poisoning, being simply a red paper diamond affixed to a bottle containing a powerful and dangerous remedy, such as morphiæ acetas. In the case of strong liniments, an irregular red band is pasted round the bottle so as to be distinctly seen and felt. Two charts, the one an illustrated comic compendium of domestic medicine (Le Médecine à la Maison), the other a comparative view of the edible and poisonous fungi. Copy of the "London Pharmacopœia," 1677, with other early works relating to pharmacy. "Précis Théorique et Pratique des Substances Alimentaires, et des moyens de les améliorer, de les conserver, et d'en reconnaître les Altérations," par A. Payen.

Redwood, Professor, London.—Specimens illustrating his patent process for the preservation of meat by means of a coating of solid paraffin.

Rimmel, Messrs., London.—Vaporizer, rafraîchisseur, and various toilet articles.

Robinson, J. Spencer, Alfreton.—A jar containing Australian snakes, arranged in a spirited manner.

Savory and Moore, New Bond-street, London.—Yacht medicine chest made in polished walnut. In addition to the ordinary fittings may be noticed a supply of Duncan's ratan-cane splints.

Shillcock, J. B., Bromley, Kent.—Patent perforated cage leech vase.

Short, J.—Soda-water taps.

Smeeton, W., Leeds.—Case of extractum carnis prepared from English beef.

Thonger, Mr. G., Birmingham.—Poison labels.

Tomlinson, M., Hulme, Manchester.—Dispensing counter fitted with the improved expedio label rack. The chief novelty in connection with the dispensing portion of this counter is the system adopted for storing labels. A frame constructed on the same principle as that commonly used in railway offices is adapted for holding a large series of labels, which are withdrawn through a slit in the front of each compartment. A specie jar intended for the the chemist's window is shown by the same maker, on his well-known patent principle.

Van Abbott, G., 5, Princes-street, Cavendish-square, London.—A large contribution of dietetic substances, among which may be noticed, gluten bread, farina, and chocolate; malt flour, sugar of milk, extractum carnis, and a number of wines selected for the use of invalids.

The last paragraph in the Committee's Report which refers to the splendid bust of Jacob Bell, contributed by Mr. Hills, must be printed without abridgment:—"Thanks are due, and thanks are most willingly paid to our Vice-President, Mr. Hills, for his thoughtful contribution. Some at Nottingham probably saw, for the first time, the features of one to whom pharmacy is so much indebted. There were many present, more fortunate in their private friendships, who could point out to others how well the sculptor had caught and rendered the living expression of the man; both will allow that this report could not more fitly close than with a tribute of unfeigned respect to the memory of Jacob Bell."

REVIEWS

FRESENIUS'S QUANTITATIVE ANALYSIS.

A System of Instruction in Quantitative Analysis. By Dr. C. Remigius Fresenius. Fourth Edition. Edited by J. Lloyd Bullock, F.C.S., and Arthur Vacher, F.C.S. Pp. 791. London: Churchill. 1865.

The literature of chemistry divides itself into at least three sharply-defined classes of books. There are those firstly, which spring into being complete, perfect and exhaustive. Then there is the current, or journalistic class, which not only supplies the daily wants of the labourers in the chemical field, but is the storehouse, in which is garnered up their daily accumulating harvest of facts. But the kind of chemical book which is of all others the most useful and the most enduring, is that in which certain fixed principles of arrangement and treatment being once for all adopted, they are adhered to through succeeding editions, each of which differs from its predecessor only in being brought up to the standard of the time. Fownes's "Chemistry" is a well-known example of a book of this kind, in which gradually accumulating facts have, as it were, crystallised round the original nucleus, which has increased to such a size, that in the latest edition of the work the first would scarcely be recognised.

In the handsome volume now before us, we have another marked illustration of the same kind. New facts have been so steadily added,—new processes so systematically introduced, that the *Fresenius* of to-day, while retaining the plan and method of the earlier editions, is to all intents and purposes a new book. As we turn over its pages, or scan its table of contents, we cannot help asking ourselves how, while this book is accessible to every laboratory student, it can ever be worth the while of compilers to take so much trouble with little handbooks of chemical analysis, whose title-pages hold forth promises but very imperfectly fulfilled in the text.

Very little is now wanting to make the *Quantitative Analysis* of Fresenius a perfect book, as far as the analysis of inorganic bodies is concerned. In the present, which is the fourth edition, and corresponds to the fifth German edition, Mr. Bullock, to whose labours English chemists owe so much, has called to his aid Mr. Arthur Vacher, who has had the advantage of working in the Wiesbaden Laboratory with Dr. Fresenius himself. The book has been increased by about a hundred pages, and fifty additional woodcuts illustrate the text.

As it may with some justice be objected that it would be better, instead of increasing the size of a book, to eliminate matter which the lapse of time has to a great extent rendered useless, we may state that the new pages are occupied for the most part with special processes of the greatest utility—as for example—for the analysis of mineral waters, gunpowder, tannin, cast iron, soils, manures, and the ores of zinc, iron, and copper.

As the accurate determination of tannin is of the highest importance, from an industrial point of view, and as some of our readers may perhaps be called upon to perform such an analysis, we make no apology for laying before them an abstract of the methods now, for the first time, introduced into *Fresenius*, premising that they have been tried in the laboratory of the author, and found to be trustworthy.

The first of these methods is that of Löwenhal, which consists in oxidising the tannin solution in presence of an excess of sulphate of indigo. The oxidizing agent is either permanganate of potash or chloride of lime, and the quantity of either re-agent employed for the sulphate of indigo must be deducted from the total quantity used, in order to get the amount required for the oxidation of the tannin. Any error likely to arise in this process is due to the fact that the oxidising agent is not entirely without action on the organic matters other than tannin which may be present in the solution. This error is, however, said not to exceed a few tenths per cent.

The next process is based upon the assumption that the tannin present in a solution can be perfectly removed by treating the liquid with the raspings of hide. The specific gravity of the solution—an infusion of oak bark or catechu for instance—is first taken. It is then shaken with the hide filings, and the specific gravity again taken. The addition of a unit to the difference between the two specific gravities gives that of the solution of tannin alone. The per-centage of tannin is found from this by a table given for the purpose. This method is said to give, in careful hands, excellent results, and we may add that if on more extended trial this statement should be found correct, the process will be by far the best and simplest which has yet been proposed.

The method of Persoz, which is based upon the measurement of the volume of the precipitate produced by a tannin solution in a mixed solution of protochloride of tin and chloride of ammonium, may be dismissed with the remark of Fresenius, that "it makes no pretension to extreme accuracy," and we may fairly ask why, then, it should be permitted to find a place at all in the book

A process for the estimation of the carbonate of lime in commercial bone black, which also find a place in the "special" part of the book, is extremely ingenious and worthy of the attention of all, who, like sugar refiners, have occasion to use this substance largely.

In closing a very imperfect notice of what may be described as the best book on Quantitative Analysis made much better, we must again thank Messrs. Bullock and Vacher for their share in it, and award to Messrs. Churchill the just meed of praise due to clear type and good paper. It would be pleasant to add—and to good binding. Do, pray Messrs. Churchill, remember that few books receive such rough handling as those which are issued under your admirable auspices, and give, even at increased cost—to your laboratory books at least—a somewhat more serviceable working dress.

H. N. D.

NOTES AND QUERIES

"*A Learner*" (Stalcybridge).—We are not acquainted with any special work on the subject. You will find forms for all the principal varnishes in Cooley's "Cyclopædia of Practical Receipts." (Churchill.)

"*Cymro.*"—"The Dog in Health and Disease," by Stonhenge. (Longmans. Price 15s.)

T. (Breconshire).—Dr. Pereira's "Selections from Physicians' Prescriptions." (Churchill.)

"*Felicis.*"—We will give a formula in our next.

W. P.—A license is still required for the sale of black and white pepper, but red pepper is specially exempt by law from license.

THE CHEMIST AND DRUGGIST

LONDON, OCTOBER 15, 1866.

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Queries.—The Editor cannot undertake to attend to those which are anonymous, or to send answers through the post.

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The Chemist and Druggist is published on the Fifteenth of every month, except when that date falls upon a Sunday, when it is published on the preceding day. It is regularly supplied direct to the Members of the Trade in Great Britain, Ireland, the Colonies, and all the principal seats of foreign commerce.

Everything intended for insertion in the current Month must be sent in before the 10th, except Employers' and Assistants' Advertisements, which will be received until 9 A.M. on the morning previous to publication.

EARLY CLOSING.

At length the dawn of civilization, say rather of common sense, has reached even Pharmacy. About fifteen or more sensible men in South Belgravia have ventured on the initiation of a system of Early Closing. Whilst others have vainly waited for a combined and universal movement which will never originate outside Utopia, these gentlemen are entitled to the highest praise in having *done* something; and by the very act they have furthered the good cause more than by the most elaborate essay that might be written on the subject. We congratulate them on their courage with as warm a satisfaction as that with which we shall hereafter have to chronicle their success. Dating from October, 1866, the new regulations will be carried out; and we need scarcely observe that the experiment will be watched with eager interest by many who themselves have hesitated to risk the hazard of the die. If any words of ours can aid the scheme, we say at once that it has our unqualified approbation; whilst universal Pharmacy is interested in its prosperity.

The cause of Early Closing has been retarded by the expression of too sanguine views, as well as by the proposal of unpractical, because sweeping regulations; nor has it been advanced by that exaggerated and sarcastic style, for which extreme youth is at once the reason and the defence. The case as it stands needs no adventitious colouring. The internal arrangements of English Pharmacy are such as would amply warrant a father, or a considerate guardian, in preventing a son or ward from entering on its practice as a means of living, while the social condition of the druggist on the Continent is even more deplorable. We turn, therefore, with profound satisfaction to the agreement which this month is printed with Mr. Vizer's letter in our columns. The hours mentioned by these chemists in South Belgravia have been determined with requisite moderation. Some will probably doubt whether the word "Early" has been clearly understood; certainly the day is not far distant when its suggestive meaning may be more fully carried out; but on careful consideration we recognise the wisdom of not attempting too much on the onset. The tyranny of protracted labour, transmitted to us by hereditary routine, and claiming from the druggist almost the reverence due to law, cannot be overthrown by a single effort. Long and energetic personal example on the part of men like these of South Belgravia will be wanted to convince others more timid and less enlightened than themselves, that the druggist has voluntarily submitted to a life mistake. Still there comes the question, which stands frowning down upon us like a great rock, "Is not our present practice necessary?" In other and simpler words, "Can the druggist make ends meet, although adopting shorter hours?" This grave appeal must not be put aside, nor slurred over, nor treated with contempt. Until it is answered the whole cause is shipwrecked. We have to get our living, not to dream; and our most ethereal speculations will not explain away the inexorable logic of our rent and taxes.

We believe the plan is feasible, and we say this not from the impulse of the moment, but on careful consideration. For many years past we have made statistical inquiries relative to this matter, from which was obtained the general result, that on the average the last two or three hours of the druggist's business life were as unprofitable as irksome. No definite rule can possibly be given, owing to the essential difference between one business and another. Certain chemists must from local circumstances keep open later than their neighbours; let each follow the excellent example now before him, and work out the details of this new order of benevolence, to the best of his ability, in his own immediate sphere. Hard words may well be spared when discussing an evil, the reality of which is the most eloquent protest against its continuance. No man can endure this late closing misery without moral, mental, and physical injury; the practical teaching of the West End chemists must in the end prevail—not one shadow of doubt need be entertained as to the result.

The province of a scientific journal is neither to dictate, nor to dogmatise about those higher relations which exist between man and God; still we may be allowed to advert to the determination which this Early Closing Circular expresses to reap the advantage of the physical relaxation of the Sunday. May all good omens favour the attempt, and let the fifteen brave hearts know that the blessing of every druggist's assistant rests upon them. This sickening, perpetual grinding of the mill-stone is the secret of the loathing to the drug trade. Nearly all business has its definite hours, but at least the seventh day puts an end to toil. Hard is that task which lingers on for ever. It is this dreary continuity of work which eats the heart out of domestic joy; which paralyses all excelsior instinct; which goes beyond the original limit of the curse. Most cordially do we rejoice that there have at last been found some bold enough to snap the chain.

Here let us pause, but not before we ask our brethren in the drug trade—Do you prefer the routine midnight slavery?—is it congenial to either your better feelings or your personal inclinations? Give up at least an hour, rather than none at all; allow yourselves as masters some share of rational liberty, and grant to those who in the order of Providence are in your employ some fair participation in the boon. So let the druggist enter, hopefully and gladly, into that universal family from which his lingering occupations have excluded him too long.

THE *STANDARD* AND THE CHEMISTS AND DRUGGISTS.

We extract the following passage from a singularly ungenerous leading article of the *Standard*, on a recent sad case of accidental poisoning by a medical gentleman :—

> "Medicines are made up and vended by raw youths who cannot read the inscriptions on the drawers or bottles. Indeed, any one who has the impudence or the capital necessary can call himself a chemist and druggist, and may trade as one. It will be conceived how large, and consequently how mischievous, this class is, when the tempest of opposition to Sir Fitzroy Kelly's Chemists and Druggists' Qualification Bill is remembered. There was a tremendous clamour raised about the monopolising claims of the Pharmaceutical Society. But not all the societies existing could remedy the evil by confining their authority to the purity of medicines sold. It is a frightful thought that the most awful of destructive powers in nature are within reach of half-taught lads, caring nothing for their business, who may be lost in admiration of a new waistcoat, or a pretty girl, while they are serving out strychnine instead of bismuth—death instead of life—to an invalid."

According to the known facts of this unfortunate case, even as stated in this same article, the dispenser of the fatal draught was not a mere "chemist and druggist," trading, as suggested, upon impudence or capital, but a duly qualified surgeon of forty years' practice. The "raw youth," so far as the evidence given in the case has yet been adduced to show, is a pure figment of the writer. For the rest, anyone at all acquainted with the subject must know that the stupidest thing any "mere capitalist or impudent man" could do in the hope of gaining an income by trade would be to set up as a chemist and druggist. Whence would he obtain his dispensing business? He would run the risk of prosecutions for manslaughter, of actions for damages, every day of his life after a week's shopkeeping. He would soon be the jest and mockery of all the elderly matrons of the neighbourhood. His only chance of making a profitable business would be by the confidential sale of poisons, at the risk, almost upon the certainty, of being hanged. It is true that chemists and druggists occasionally recommend medicaments to customers in ordinary cases of malady. They are, by law, permitted to do so, and they stake their public reputation upon doing so with knowledge and skill, so far as may be required. They prepare and dispense the greater quantity of all the medicines taken in the country; and yet, when once by an extraordinary fatality, a mistake is made by an elderly surgeon, the chemists and druggists are to be blamed for it, and taunted with employing utterly mythical raw youths! Surely the writer in the *Standard* should henceforth be tender towards all committing unintentional error, in any profession or calling, in view of the gross blunder into which he has himself fallen.

METHYLATED MEDICINES FOR EXTERNAL USE.

The following correspondence will remove all doubt respecting the legality of using methylated spirit in the preparation of liniments and lotions that are not capable of being used as beverages or internal remedies :—

Adam Young, Esq.

Sir,—I beg to acknowledge the receipt of your communication giving the reply of the Board to my letter of the 30th ult. The explanation that it is illegal either to use or have in possession medicines prepared with Methylated Spirit which may be used as an internal medicine is distinctly set forth; but it would be desirable if the Board would give their decision whether Methylated Spirit may be used *for external* purposes or not.

I am, Sir, yours obediently,

London, Sep. 13th, 1866. John Wade.

Sir,—Having laid before the Board your letter of the 13th inst., I am directed to state that Methylated Spirit may be used in the preparation of medicines for external use, and such medicines may be kept in stock, provided in both cases they are not capable of being used either wholly or partially as a beverage or internally as a medicine.

I am, Sir, your obedient servant,

Wm. Corbett.

Inland Revenue, Somerset House, London, W.C., Sep. 22nd, 1866.

SHOP REGULATIONS.

BY BARNARD S. PROCTOR.

The interest which has been taken in Mr. Ince's paper on Pharmaceutical Ethics is an inducement to say a few words upon the rules which it is desirable to observe in the internal management of a pharmaceutical establishment.

Several who have commented upon the paper have spoken of the antagonism which frequently exists between master and assistant—an antagonism which ought not to exist, for it is a source of pain and loss to both parties, without any redeeming advantages. Anything which can be said or done to obviate or to mitigate that feeling of opposition must be well worthy of attention; to open a discussion, to keep the debate going, to elicit a diversity of ideas, and possibly to arrive at some useful conclusion is a work in which many may assist, and towards which I now propose to offer my mite.

Where there is an obliging disposition, with industry and intelligence on the one hand, and a genial disposition and appreciation of services on the other, rules may be in a great measure dispensed with, each individual being a law unto himself. If in any case there were such a thing as determined antagonism between the employers and the employed, the best code of rules would be unavailing. But in this world, where the inhabitants are neither angels nor devils, and where every one must of necessity take care of himself, whether he cares for others or not, it becomes a matter of convenience to define, where practicable, what we may expect of others, and what may be expected from ourselves. On the other hand, a code of rules may be literally obeyed when a regard for the spirit and intention of the regulations would be more satisfactory, so that after all, the root of all comfort and harmony is the desire, whether in master or servant, to do the best we can for those with whom we are associated. The code which I now throw out as a football for many kicks is not offered as a mature work, proved to be satisfactory, but having been drawn up a few months ago, and having met with the approbation of one or two friends to whom it has been submitted, it is now published, in the hope that it contains some useful hints which may form a nucleus round which the thoughts of others will crystallize, forming combinations suited to their requirements.

In my own establishment they are framed, glazed, and supposed to be attended to.

General Rules of a Pharmaceutical Establishment, employing two Assistants, two Apprentices, and an Errand Boy.

1. Every one to see to his special duties first; but to aid in any other department if his own does not keep him busy.

2. Any one receiving an order is responsible for its execution and dispatch within proper time, and its booking if not paid for; goods to be booked, and, when practicable, priced as soon as put up.

3. Every one to put away goods which he has used, when done with.

Apprentice to clean and put away knives, measures, mortars, etc., which they have used, as soon as done with.

Assistants to see that utensils, etc., which they have used, are cleaned and put away without unnecessary delay; to do it themselves if less occupied than their subordinates.

4. Any one finding a bottle or drawer less than quarter full, to replenish the same before putting it away; and if he find stock getting short, to enter the article in the want-book; and if stock is absolutely out, to make a note of the fact upon the slate also.

5. Any one finding goods exposed to damage by faulty keeping, to see to their better storage, or report the same

6. Every one to use his endeavours to prevent damage of utensils, etc., or waste of material, and to observe cleanliness, neatness, order, and punctuality, in all transactions.

7. Any one finding an article out of its right place, to return it to its right place.

Any one finding a job in want of attention, to make a mem. of the same.

8. Any one receiving complaints or suggestions from customers, to report the same, and to make mem. of any goods inquired for if not kept in stock.

9. No goods to be put away without a label; each package to be marked with the invoice number—thus 37; and all vessels or packages from which goods are retailed, to be marked with the retail price—thus, c/x oz.

Aim at having everything done as perfectly as possible; packages neatly and tightly put up; bottles well corked; labels neatly and correctly written; pills equally divided, well formed, well coated, and of a good consistence; tinctures and infusions bright; powders well mixed, and free from knots; ointments smooth, etc.

TIMES.

Business hours from 8 a.m. to 7 p.m. Saturdays, 8 a.m. to 9 p.m.

Morning	Dinner Time.	Saturday Tea Time.
Assistants.		
1st 8·30	1 till 2·15	5·45 till 6·45
2nd 8·0	12·45 — 2·0	4·30 — 5·30
Apprentices.		
1st 8·0	2·0 — 3 15	5·45 — 6 45
2nd 8·0	12·0 — 1·15	4·30 — 5·30
Errand Boy.		
8·0	1·0 — 2·15	5·45 — 6·45

SPECIAL DUTIES.

First Assistant.—To dust front counter, and replenish any vacancies on counter or in cases; to be responsible for the cleanliness and order of all appendages to the front counter; to take principal charge of front counter, and of dispensing.

To have general supervision of subordinates, and see that their duties are regularly and efficiently performed, their time rightly employed, and the general rules attended to; to report any irregularities which are not promptly corrected at his bidding.

To look over day-book every evening, and see that every entry is distinct, the names and addresses being explicit, the items fully described, and when practicable priced.

Second Assistant.—To dust south window and dispensing counter, and to replenish any vacancies in north counter cases.

To take second charge of front counter, and dispensing, and principal charge of pharmaceutical processes; to be responsible for the cleanliness, order, and condition of all things belonging to the dispensing counter.

To examine the slate at 9 a.m., 2 p.m., and 7 p.m., and see that no mems. are forgotten, to clean off any that are done with; and at closing time to see that the counters are cleared down, and all utensils, etc , put away.

First Apprentice.—To dust north window, north counter, chairs, mouldings, window frames, etc., clean tumblers, measures, and when necessary, any of the glass cases; to look over bottles and jars, with the view of filling any which require it, and to give leeches fresh water.

To take any parcels which may be ready to go north when he is going.

Monday—To clean dispensing scales, and see that they are in good order. Tuesday—To clean warehouse, and see that all packages are in good order. Friday—To clean inside of south window.

Second Apprentice.—To open shop, sweep front shop, dust bottles and shelves, (Monday—north side, Tuesday—back, Wednesday—south side, Saturday—south side.)

To take parcels which may be ready to go west when he is going.

Monday—To clean cellars, and see that mineral water bins are full, and when necessary to pack empties. Tuesday—to clean scissors, pill machines, and powder folder. Friday—To clean north window inside.

Errand Boy.—To open shop, light fires, sweep and dust back shop, clean window plates.

To wash bottles, mortars, measures, etc. ; to clean and polish knives.

To go errands.

To render any other assistance that may be required.

Thursday—To clean scales (except dispensing). Friday—To clean outside of windows.

Grey-street, Newcastle-on-Tyne.

Correspondence

EARLY CLOSING IN SOUTH BELGRAVIA.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Dear Sir,—The subject of early closing is what you may call a "popular subject" just at present; and why the poor chemist should not be brought within the vortex, is a question which remains entirely with themselves to answer. The public, I feel assured, would fall in with the effort, if made and carried out as it should be among a body of intellectual men, in a united and friendly spirit.

I am glad to be able to inform you, that having invited the chemists of this neighbourhood to my home last Monday evening, in order to discuss this subject, we unanimously agreed to close our establishments every evening (excepting Saturdays) at nine o'clock, and entirely on Sundays, cases of emergency, of course, being attended to as usual. It only remains now for each of us signing the agreement to feel it a duty we owe to ourselves and the trade at large to persevere in the arrangement.

We are fully aware that for some time we shall be somewhat troubled with applications after the time of closing, and in order to prevent future collisions on this point, and the possible rupture of the whole affair, we have made it distinctly understood among ourselves, that serving a customer after the doors are closed is not to be considered an infringement of the agreement, but that each one is to use every practical means of reducing to its minimum this "after work."

In order the more fully to make the change known to the public, we have had 25,000 handbills divided among us for circulation.

As regards indiscriminate *Sunday trading*, I may repeat what I have already written to the *Pharmaceutical Journal*, "that it is a cause of surprise to my mind, that in a professing Christian land common decency, if not far higher motives, should not prevent respectable, educated men, for the sake of grasping a few extra shilliings, so far lowerng themselves in the eyes of the public. I can fully testify, from ten years' experience, that where there's a will there's a way, and that neither coffers nor reputation will suffer through obedience to the command, "Remember the Sabbath day to keep it holy."

Trusting that ere long our example may be followed throughout the trade,

I am, Sir, respectfully yours,
Edwin B. Vizer.

63, Lupus-street, Belgravia, S.,
September 21, 1866.

Through the kindness of another correspondent, we are enabled to present our readers with a copy of the agreement, signed by the chemists of the South Belgravia district :—

"We, the undersigned chemists, do hereby agree to put up our window shutters every night (excepting Saturday) at half-past eight o'clock, and to finally close our shops, by fastening the doors and putting out the lights, at nine o'clock.

"On Saturday finally to close (as above) at half-past ten o'clock.

"We also further agree not to make any display whatever of business on Sundays, but to keep all our shutters and our doors closed.

"This agreement to be carried out on and after the first day of October, 1866."

The following chemists have signed the agreement :—

Messrs. Bradley and Bourdon, 41, Belgrave-road.
Messrs. Carrick and Beddard, Churton-street.
Mr. F. J. Chard, 39, Warwick-street.
Mr. J. Davies, 20, Moreton-street.
Mr. J. Fenn, 83, Regent-street.
Mr. W. Gillett, surgeon, 77, Vauxhall Bridge-road.
Mr. A. Hart, 117, Warwick-street.
Mr. H. King, 1, Churton-street.
Mr. J. H. Kinsey, 11, Hugh-street, West.
Mr. D. J. Lewis, 13, Upper Tachbrook-street.
Mr. W. W. Urwick, 60, St. George's-road.
Mr. E. B. Vizer, 63, Lupus-street.
Mr. R. Watkins, Moreton-street.
Mr. S. Wells, 91, Charlwood-street.
Mr. J. Wilson, 20, Sussex-street.

SUNDAY CLOSING.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Dear Sir,—In answer to the letter of "Podophyllin" published in your journal of last month, I beg to say that from my own experience I am sure Sunday Closing might be carried out by most druggists without pecuniary loss. I have been connected with one establishment as an apprentice and assistant nearly 12 years, and during the whole of that time the shop has never been opened at all on a Sunday, and the large amount of extra business invariably done on Saturday and Monday convinces me that customers can generally anticipate or postpone their Sunday wants. No druggist can expect to be away the whole of the day, but it is easy to let customers know that they can have medicines that are really required, at a certain hour, say, either before half-past 10 in the morning or after 8 in the evening, by applying at the private door. If the shop door is kept closed the druggist will not be troubled by repeated calls for Epsom Salts, Hair Oil, Seidlitz Powders, and other articles that might be purchased the day before.

I am, dear Sir, yours truly,
George Powell.

Shepherdess-walk, City-road.

HOW THE PHARMACEUTICAL SOCIETY MIGHT REPRESENT BRITISH PHARMACY.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Sir,—According to Emmerson, "An institution is the lengthened shadow of one man," and there appears a great desire on the part of some chemists to make the Pharmaceutical Society appear as the shadow of its founder, by expressing their reverence and admiration for the pioneer to pharmaceutical education. But whilst they keep the name of that energetic and unselfish man before the rising generation, their own practice seems at variance with the principles that he advocated. The desire of Jacob Bell, I believe, predominates with three-fourths of those now engaged in the work of pharmacy. The opposition to the Pharmaceutical Council has not been excited by the principles of the Society, but by their application. The wish of the founder was to bring all sections of the trade into unity; but the successors of this liberal minded man are by their restrictive policy stultifying the results of his great efforts. That the Society should be encouraged and guided into the general representation of the whole trade of English pharmacy, instead of merely representing a minority, would be an advantage to all chemists as well as a credit to the nation. That it should be the college from which our young dispensers should come forth all must admit. In spite of disadvantages attending the monopolizing spirit with which it has been governed, it undoubtedly has advanced pharmacy, and created a superiority of tone in the new race of chemists. Every year gives proof of the ability displayed by young men rising in their trade,—masters of the art. The proceedings of the British Pharmaceutical Conference have been enriched chiefly by papers from those who were pupils at the establishment in Bloomsbury. The Society may justly be proud of such a worthy son as Dr. J. B. Edwards, who has just left England, to carry away with him to Canada the approbation of those who have known him from his apprenticeship to the Society to the time when he is praised by the heads of learned societies, who see him go forth as the reflection of English Pharmacy, with full confidence that the position he has raised himself to here will be but the pedestal to his future fame. No one can read of the proceedings at Liverpool without admitting that if the Pharmaceutical Society has been instrumental in making a Dr. Edwards it ought to be encouraged. Whatever may be said of the opponents to the Society's management, it cannot be mooted even that envy is the cause, but rather regret that the opportunity is not offered to all to combine, so as to make the Society what its founder intended.

It is an ungracious assumption that those only who are members of the Pharmaceutical Society are desirous of advancing pharmacy to a high position. Among the outside chemists, who have held aloof from societies, are many, equal in social position, wealth, and education to those who are members of the Pharmaceutical Society, and who have at heart a desire to see the trade improved. No blame is due to those who, years ago, for various reasons, declined to join the early advocates for a voluntary examination. The Society should not be a lottery for those only to obtain prizes who first joined it, but the practical means of bringing the whole trade together; and what was impossible twenty years ago has now become a necessity. If the successors of Jacob Bell truly desire to perpetuate his memory in a manner worthy of his generosity to the Society, they should open their doors to those who declined to receive him as a prophet, but would now gladly participate in a general effort to close the trade.

A golden opportunity is offered, and Jacob Bell would have rejoiced to see the day of such unanimity for a general registration. It is now understood that we as chemists have one interest in common. Why need there be jealousies and antagonism to keep us asunder? The man who holds his certificate by payment knows he is no better than his friend without it, and that in many cases he is inferior in every respect.

If we are to succeed there must be unity in addressing the legislature. Whilst we differ wolves devour the fruits of our labour. Let experience of the past teach us wisdom and guide our future steps. Let the Council of the Pharmaceutical Society put aside unworthy sectional ideas, and adopt a common platform for all to meet upon, under the banner of which is inscribed, "a general incorporation," and by these means exalt the Pharmaceutical title and the trade at once. Let them put aside the desire to restrict the degree to the few who will pass voluntarily, and seek the co-operation of the whole trade to compel a compulsory examination.

It is supposed the Society has not been idle during the summer, and that they have a bill, with the errors of the past removed; but the bill so revised, however good it may be, will be received with suspicion. Jealousy will never die, if a bill is thrust upon outsiders by a body they have never yet been able to trust. If pharmaceutists will not acknowledge outsiders, what right have they to attempt legislating for them? They have their own members only to look after. But if they aspire, as they ought to do, to represent the whole trade, then let them take counsel of the trade, and, having learned its wants, study the several trading interests as well as that of the aristocratic dispensers.

That there are liberal minds on the Council, I am sure; that amongst members by examination, as well as by payment, those who would confine the Society to its present narrow basis form an insignificant minority. If the Council would call a meeting of the whole trade in London, the example would be followed in the provinces, and those who have hitherto been rivals would come together and ascertain where they differ, and why they should not unite to so materially benefit each other. 'Tis but a thin crust of reserve which makes so chilling a division. It wants but a little courage for one section to meet the other, and arrange the terms of united action. If every provincial town had but *one* man willing to act, that man, pharmaceutist or not, could, if he would, unite the members into a fraternity. The words "Unite and act in concord" should go from London to be effectual. It is natural that a man should cling to his society; but there is an object before the supposed advantage of a society, and that is the welfare of the trade at large.

If the Council prefer upholding private interests to the objects their founder had at heart, then we may conclude that the sun of the Pharmaceutical Society has set, and that the shadow of Jacob Bell has passed away.

Oct. 6, 1866. I am, &c., JOHN WADE.

PHARMACEUTICAL ETHICS.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

SIR,—After reading Mr. Ince's paper on "Pharmaceutical Ethics," I was impressed with a notion that his painting of the trade was the work of "the Lion," and I could but echo the poor showman's exclamation, "Oh, that it were real!" There is an evil existing, fatal to the wide-spreading of "Pharmacies," slightly alluded to by Mr. Schacht, which did not gain the attention it deserved.

"There are," says Mr. Ince, "diametrically opposite modes of trade influenced, often determined, by locality;" but I cannot help thinking that locality has less influence in modifying the trade of pharmacy than the conduct of certain leading pharmaceutists who thank Heaven that they are not like those "publicans" of the trade who infringe upon the physician's prerogative, or act otherwise than as dispensing chemists. A system of contract and recommendation is carried on by consulting and ordinary physicians, and leading pharmaceutists in London. A complete monopoly is established, and the suburban chemists are deprived of the cream of their trade by this pernicious system. Numerous are the cases I could instance of having advised a customer to consult a physician, noted for the study of his particular ailment, and lost the dispensing of the medicines through the physician's recommendation of his favoured pharmacy. On one occasion I remonstrated with a very eminent physician for raising a prejudice in the mind of every customer, by leading him to suppose either that I was incompetent, or that my medicines were inferior; and I also protested against the practice on principle. He denied the charge, and to my satisfaction repudiated any such practice; but upon making further inquiries, I discovered that his footman had acted as touter for the highly respectable dispensing establishment, much to the disgust and annoyance, I am pleased to add, of this very worthy member of the faculty. A business arrangement between a chemist and a surgeon or physician is comprehensible, and perhaps defensible, but the co-operation of chemist and flunkey is surely incompatible with the most elastic code of pharmaceutical ethics. This system, sir, is carried on under numerous forms, and by turning your editorial pen against it, you would earn the thanks of many of us. By some of these favoured chemists a percentage is paid on every prescription dispensed, but others pay tribute in a less direct manner, and acknowledge the patronage of medical men by Stilton cheeses and oysters, and no charge for medicines for the household. I quite believe that none of these London houses have "found pharmacy a despicable source of income," and admit that their mode of conducting business is "neither romantic or irrational." I simply maintain that the co-operation of leading physicians and certain pharmaceutists is the means of increasing an illegitimate trade amongst the suburban chemists, who are thus deprived of their dispensing business, and that so long as it continues it is vain to hope for any general improvement of the trade of pharmacy. The old tale of the pious grocer directing his assistant to sand the sugar, damp the tobacco, and come in to prayers, is brought to mind by the practice of some of those who are supposed to be teaching our young men pharmaceutical ethics. I have for years past protested against the actual and virtual partnerships existing between prescribers and dispensers, and have repeatedly been informed that the prescription was sent to Mr. So-and-so in order that it might be properly prepared. I can assure you, sir, that this system is now adopted by a very large number of the most noted physicians, and is of the most serious consequence to us not within the favoured circle. Supposing a young man having passed the pharmaceutical examination, sallies forth in full feather with an ambition to be strictly ethical,—such ideas have been implanted in him, that he indignantly repudiates the sale of sundries and patent medicines; he most respectfully declines to offer any opinion upon what might relieve Mrs. Brown of "spiders in the heart," or any other malady, as it is quite unorthodox to prescribe; and thus he perseveres, making his infusions fresh every morning for prescriptions which never come; but still he remembers that, as one desiring to be purely ethical, he must adhere to this style of business. Soon he finds that his customers more frequently inquire for cosmetiques, corn plasters, perfumery, and various articles bearing the names of distinguished pharmaceutists on the Government stamp, "without which none are genuine," than for officinal preparations. Bottles are occasionally brought in by servants for castor oil, rose water, sal volatile, or other minor requisites, bearing conspicuously on the elaborately-got-up labels of houses holding "special warrants" from some human deities long rows of figures, which are supposed to indicate the numbers of the prescriptions, and which prove (unless they are intended to deceive the public) that the favoured houses get an undue share of the dispensing trade. The pride of education then begins to droop. The aspirations of the intellectual, enterprising young pharmaceutist are damped. Disheartened with his prospects, he wakes to the truth that pure ethics are not real; that to obtain a living he must be as much a disciple of Piesse and Lubin as of Jacob Bell; and that the knowledge of a bazaar business would serve him in the work he has to perform as much as botany, materia medica, and chemistry. Then it is that he mildly suggests to Mrs. Brown that certain remedies would cure the spasms, and prescribing, gains admittance; then dentistry; and finally the sale of Sarson's vinegar, safety matches, and anything but the products of pure pharmacy, brings him in a sufficient income to enable him to exhibit his pharmaceutical certificate.

This evil, sir, is brought about by the abominable compacts between medical men and pharmaceutists in the highest position. Of course there are many high-minded pharmaceutists and physicians who would scorn to act as I have described. Moreover, there are doubtless many medical men who patronize certain dispensing houses with the sole desire that their patients may have pure medicines, but this special patronage renders the improbability of obtaining pure medicines elsewhere greater. The legitimate trade of local chemists is carried to a focus, and the result is natural. It does not enable the suburban chemist to keep in stock the numerous preparations of the day; the drugs spoil; the all-sort shop occupies the place of the pharmacy; and the disappointment is enhanced by the pharmaceutical education which led our much-to-be-commended young tradesman to expect that a new phœnix would rise from the lifeless ashes of unpatronized pharmacy.

Sept. 29, 1866. Yours truly, RAVENSWOOD.

P.S.—Since writing the above, one of my customers has brought me a prescription containing an eight-ounce mixture, and the same quantity of lotion mixture, wishing to know if I could not dispense it as well as Mr. ——, to whom she was sent by the physician, as the distance was great, and as she always came to me for what she required. I forward you, sir, a copy to show that I was perfectly justified in answering in the affirmative, and also the labels from the favoured house. You will notice that the words "The mixture" are printed upon the label of the *lotion*, as well as on that of the mixture intended for internal use, before the written directions. The danger of a mistake through the use of similar labels was not incurred by the patient when she employed her own family chemist to make up the prescription.

℞ Acid Nitric. dil. ʒj
Liq. Carbon deterg. ʒiv
Glycerini ℥ss
Aq. Camphoræ ad. ℥viij
M. ft. lotio
Signa. The lotion to be used every morning as directed.

℞ Tr. Iodinii Co. ʒj
Tr. Card. Co. ʒiv
Liq. Fowleri ʒiss
Liq. Potass. ℥ss
Aquæ ad ℥viij
M. ft. mist.
Signa. The mixture. Take a dessert spoonful in water twice a day after meals.

THE MITCHAM HERB GARDENS.

SIR,—At the close of August I happened to be in the neighbourhood of Mitcham, and I naturally felt a strong desire to see the birth-place of the famous "Mitcham Oil."

Through the courtesy of Mr. Bridger, who succeeded some years since to the extensive grounds once farmed by Messrs. Potter and Moore, I was enabled to make a close inspection of the various plots of land under cultivation for medicinal herbs. Upon entering the grounds between the extensive stabling and the "still-house" and packing warehouse, my olfactory organs were most agreeably saluted by the smell of peppermint, that herb being in the still at the time. Right and left lay heaps of lavender stalks, not "wasting their sweetness on the desert air," for the signs of industry around were certainly not the characteristics of a desert, and, moreover, the stalks had already given up their fragrant oil, and were to be used as litter for the horses.

Leaving behind the "still-house" shrouded in a cloud of vapour, a row of waggon sheds, and a wheelright's shop, I rambled on into the gardens. The land here being very valuable, just sufficient roadway is allowed for the waggons which are employed in bringing the herbs to the "still." My notice was first attracted by a large plantation of rose-trees, those on the right of the roadway being grown for the manufacture of rose-water, and those on the left for making confection. Messrs Bridger and Co. do not manufacture either the water or the preparation alluded to, nor do they make any extract from the henbane, of which I have to speak presently, the leaves of the latter and the product of the rose-trees being sent to London houses.

It appears to be the plan to grow medicinal herbs in "patches" of an acre or so. I noticed upon my right a lot of peppermint in a state fit for cutting, and growing among it a large quantity of henbane. The pale green leaves and stalks, with their sad coloured flowers of the latter plant, appearing here and there among the purple blossoms of the peppermint, afforded a strong contrast. The next "patch" was one of onions, and I think the next to that, one of French beans; these vegetables, however, did not appear to belong to Messrs. Bridger and Co. The "patch" now upon my left was "white unto the harvest" with chamomiles, about an acre of ground being dotted with what a superficial observer would have declared to be large daisies. Women and children pick the flowers during the prevalence of dry weather at a remuneration of a penny per pound. I saw no lavender whatever growing, as I was rather too late for that portion of the harvest. The perfume of growing lavender might perhaps have counteracted the effluvia from a mountain of night-soil close by, which could not be likened to the "sweet south breathing o'er a bed of violets."

The number of acres formerly cultivated by Messrs. Potter and Moore I understood to be nearly five hundred, constituting one of the largest herb gardens in the world.

Returning to the "still-house," I found, as I have remarked, oil of peppermint "coming over," and coming it very strong. Four or five huge mash-tubs—one of which, I was informed, held not less than *thirty-five hundred-weight* of the herb—were in use; and sacks containing peppermint were being conveyed into the building from a waggon at the door. Over these immense mash-tubs men were at work stirring the contents with huge poles, but the heat was so excessive that, although they did not adopt exactly the costume described by one of our facetious writers as "full evening dress of the Ashantees, viz. a billycock hat and a pair of slippers," they wore no more clothes than they came into the world with if I except a pair of thin course trousers.

There is no doubt that the introduction into the market of "essential oils" of foreign manufacture has tended to reduce the consumption of those of home produce to a very great extent.

The foreman assured me he had known one of their stills "run" pennyroyal for a week, but not very recently. This plant, however, with rosemary and green mint, is grown extensively in the neighbourhood for the production of oils

Not far from the still-room door I saw a mash-tub even considerably larger than those alluded to, but which, owing to its enormous magnitude, was considered ineligible. Close to this huge receptacle I noticed an immense copper "worm," which was certainly big enough to be called a "serpent," and which looked as dark and deadly as the one that beguiled our first mother in a flower-garden that flourished long before that at Mitcham.

My last glance was at the packing-room, where rows of "Winchesters," "Corbyns," and numberless other bottles, testified to the fact that "Mitcham oil" enjoys a name and a fame which the 'foreigner" will find great difficulty in taking away. I am, yours, etc.,

Maidstone, October, 1866. THOMAS FARDON.

THE YORK CHEMISTS.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

SIR,—Noticing in your journal of last month a letter from Mr. W. C. Hayland, of this city, in which he has thought proper, as the satellite and partisan of Mr. Buott, to favour you with his opinions on the present state of affairs in connection with the United Society, and more especially as regards myself as its deposed local secretary, I beg to ask your indulgence to the following reply:—

In the first place, I cannot see by what right Mr. W. C. Hayland presumes to intrude himself into the question that arose between myself and Mr. Buott, which was plainly stated in my letter to Mr. Wade; and in the second place, supposing Mr. Buott has committed his defence to Mr. W. C. Hayland, it should have been the first consideration of the champion that he should be correct in his facts.

It is *not* true that a meeting was *hastily* called to discuss the merits of the rival Pharmacy Bills, as the action taken thereon was deliberate, and in concert with the secretary of the Pharmaceutical Society. There was sufficient time to print a circular, which was sent to every chemist, and in which the object of the meeting was indicated; there was sufficient time for myself to consider carefully the two Bills, to draw up clauses and amendments, which were agreed to at the meeting, and the result of that meeting was commended by yourself, and held up for the imitation of other towns.

It is *not* true that I refused to return the petition of the United

Society to Mr. Buott, signed or unsigned; I certainly declined to get it signed after the result of the United meeting of the York chemists, and offered to return it; but after some correspondence with Mr. Buott, he consented that I should alter it as I proposed, and which asked Parliament to pass "*a*" Bill, the same in substance as "*the*" Chemists' and Druggists' Bill; in fact, the only alteration was introducing "a" in place of "the," so that pharmaceutical chemists and non-pharmaceutists could all sign it.

It is *not* true that the petition (which was signed by all the chemists in York but two, and contained ninety-two signatures of chemists and their assistants) was sent to Sir George Grey, the Home Secretary; and Mr. Buott knew well enough it was not intended to be sent to the United Society, but it was sent to Col. Smyth, M. P., and presented by him to Parliament, as may be seen on reference to your Journals of the 15th March, 1865, and the 15th February, 1866.

I may as well remark here, that the Pharmaceutical Society had the petition from York to assist them, and this was from the result of no combined meeting; and instead of thinking with Mr. W. C. Hayland, that the United Society would have been extinguished had other towns followed the example of York, I believe that its power would have been augmented by Pharmaceutists so generously assisting, as to declare to Parliament that equal privileges should be given, and the right of self-government be maintained. Can anything be plainer than this to men of ordinary understanding, that action of this nature would have compelled the Pharmaceutical Council to have at once met the just claims of the United Society, and that a Bill, satisfactory to all parties, would have been obtained for the regulation and government of the trade, brought about by the pressure put upon them by the joint action of the members of the two Societies.

As it may be hopeless to convince Messrs. Buott and Hayland that the course taken was the best for the United Society, I deny entirely that either one or the other expresses the feelings or opinions of the York chemists in the matter; and I deny that Mr. W. C. Hayland has the authority of any one of them to declare an adherence to his views.

Mr. W. C. Hayland expresses an opinion that I should not have been allowed to hold the post of secretary of the United Society after I had become secretary of our York Chemists' Association. Mr. W. C. Hayland or any other chemist was entirely welcome to the office, if the members thought the two were incompatible; but I have yet to learn that the York Chemists' Association is an opposing body to the United Society. But, marvel of marvels! Mr. W C. Hayland himself is a member of the inculpated Association to the present time, and every chemist in York was a member at the period in question. I should therefore like to know by what reason or logic I should be considered ineligible, and how, by the same legerdemain, Mr. W. C. Hayland, or any other member of the same Association, was perfectly competent.

Mr. W. C. Hayland states that Mr. Buott wished to forego all personal feeling, and that for the healing of differences (caused by himself) he would come over to York in a fortnight's time, but that his offer was never met. Who was to blame in the matter? Surely not the deposed secretary, who could not act. Most likely Mr. W. C. Hayland himself, who appears to be in the secrets of Mr. Buett, and who in some measure assumed to act in the capacity of secretary previous to my expulsion. How is it, too, I should like to ask, that no meeting of the York members has been called to fill up the office, but that two annual reports have been issued, in which the secretaryship has been declared vacant. Before I conclude, there is one thing I particularly wish to notice in Mr. W. C. Hayland's letter, as it is so piquant and suggestive. It is generally understood that when a meeting is called, and an invitation is given to be present, that the resolutions then come to must represent to some extent the opinions of that particular body or trade; but Mr. W. C. Hayland gravely recommends to the consideration of all local societies, that as a general rule meetings should be held, resolutions should be passed, and that afterwards each absentee should be waited upon for his assent to the propositions. Can anything be more absurd? If local secretaries and active members put themselves out of the way, and inconvenience themselves by attending meetings of this nature, and endeavour to do what others will not do for themselves, why should the drones expect the bees to ask permission from them to bring honey into the hive?

I am sorry that I shall have to place Mr. W. C. Hayland in the category of drones, as I have summoned him to several meetings of a business and festive character, at none of which has he put in an appearance. Had he come amongst us, I don't think he would have penned the *neighbourly* letter which he had the bad taste to send you; at all events he would have been better informed of the true opinions of the York chemists; he would have been less egotistical, and would have spared me the pain it gives me in having to refute the many errors and misstatements contained in his unfortunate epistle.

I am, dear Sir, yours truly,
JOHN BROWN, *Hon. Secretary*,
York Chemists' Association.

21, High Ousegate, York,
Oct. 3, 1866.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Dear Sir,—The following resolutions adopted by nearly all the York chemists I have much pleasure in forwarding to you for publicity through the columns of the CHEMIST AND DRUGGIST, if you will kindly oblige by inserting them. I send you the original with the signatures of the trade. Those who are members of the Pharmaceutical Society of course have not been applied to.

Yours respectfully,
WM. CHAS. HAYLAND.

21, High Ousegate, York, Oct. 8, 1866.

WE, the Chemists and Druggists of the City of York, being desirous to attest our fidelity to the principles and objects of the United Society, of which we are members, and to promote peace and goodwill amongst our brethren with whom we are desirous to co-operate for the incorporation of the trade, agree to adopt the following:—

RESOLUTIONS.

1. That the public has a right to protection against the consequences of ignorance and incompetence in the sale of drugs and the dispensing of medicines.

2. That if chemists and druggists incur such expense, and submit to such regulations as the public security requires, they have a right to incorporation and self-government.

3. That the progress which the question of an incorporation of the entire body of chemists and druggists has made with the public, and the sanction it has obtained from Parliament, is entirely attributable to the influence of the United Society, whose past exertions and success constitute a reasonable ground of hope that its great object will be speedily realized.

4. That the efforts which are being made to foster discord and to create disunion in the Society, renders it specially incumbent upon each of its District Associations to combine and uphold the Executive Committee in the discharge of its duty.

That it is highly expedient that a sub-committee be formed in York to obtain the support of Members of Parliament, to influence the Home Government, and to promote petitions to the Legislature for an incorporation which shall include every unincorporated chemist and druggist in the trade.

JOSEPH OGLESBY, 21, Micklegate.
EDMOND H. SAY.
THOS. PARKER.
THOS. P. BULMER.
FREDERICK LEAK.
THOMAS BELL.
JACOB WOOD.
JOHN ROBINSON.
THOS. W. WILSON.
WM. CHAS. HAYLAND.
JOSEPH HILL.
EDWARD KNOWLES.
JAMES WOOD.
JOHN HARTLEY.
THOMAS LUPTON.
THOMAS SIDDALL.
WILLIAM COLLIER.
ROBT. WM. DICKINSON.

THE PURIFICATION OF WATER.—Under this heading many of our contemporaries have reprinted from the columns of the *Scotsman* a paragraph announcing the important discovery that the solid refuse of shale, used in the manufacture of paraffin oil, is a most perfect purifier of the filthiest water. This supposed discovery was recently made by a gentleman residing in the neighbourhood of the river Esk, but its importance is somewhat impaired by the fact that the residue of the Torbane-hill mineral or Boghead coal obtained from paraffin works, has been used for many years in the purification of water. It is, in fact, the chief constituent of the filtering media employed by the Silicated Carbon Filter Company. We believe that Mr. Julius G. Dahlke, the inventor of the filters manufactured by this Company, was the first person who employed the refuse product as a water purifier. More than five years ago, in a lecture delivered before the Society of Arts, he stated that it would remove colour and smell from water, and reduce its hardness considerably. Having explained his process for combining this material with animal charcoal and clay, so as to produce strong and effective filter-blocks, he explained that the carbonized shale might be advantageously employed in the purification of water on the large scale. If the gentleman residing in the neighbourhood of the Esk will refer to Mr. Dahlke's lecture in the "Journal of the Society of Arts" for 1861, he will find that his supposed discovery merely confirms the author's statements.

TRADE REPORT.

NOTWITHSTANDING the further reduction in the rate of discount by the Bank of England, and money being plentiful in all channels, business in chemicals has been even more restricted than for many months past, and prices in general show a further decline. Only small sales have been made in Tartaric Acid at 1s. 3¾d. to 1s. 4d., and Oxalic at 1s. 10½d. to 1s. 11d., a few makers holding for 2s. A moderate business has been done in Oxalic at 11d. to 11½d. Chlorate of Potash is quiet at 12½d. to 13d. A steady business has been done in Sal Acetos at 13d. to 13½d. Bichromate of Potass has declined to 5¼d. to 5¾d., but rather more doing. Prussiate of Potass remains quiet at 13d. to 13½d. A good business has been done in Soda Ash at from 2½d. to 3⅛d. per degree. Quinine is 3d. lower; 5000 oz. Pelletier's sold at 4s. 3d., closing buyers thereat; English is dull at 5s. Iodine held firmly at 9¼d. to 9½d. Small sales made in Sulphate of Copper at 26s. to 27s. More business doing in Soda Crystals at £6 ex ship. Caustic Soda at 20s. to 27s., and Bicarbonate at 18s. to 19s. A good business done in Alum at £7 10s. in tierces, and £7 15s. in barrels. Sal Ammoniac is steady, firsts at 37s. 6d., and seconds at 35s. 6d. Cream Tartar is dull, and the price nominal at 84s. to 85s. Sulphate of Ammonia is steady at 11s. to 11s. 6d. Flour of Brimstone is slow at 12s. 6d. to 13s., and Roll at 9s. 10½d. to 10s. A good business has been done in Bleaching Powder at 14s. 6d. to 5s. Refined Saltpetre is lower, sales made at 25s. to 25s. 6d. Turpentine is again rather better, and closed steady at 38s. o 38s. 6d. for American, and 37s. to 37s. 6d. for French; Rough is steady at 10s. Linseed Oil is quiet and lower, last ales made at 39s. 9d. spot, and 38s. to 38s. 6d. in Hull. Rape is rather dearer; English Brown 40s. 6d., and Foreign Brown, first four months, 43s.

There has been rather more doing in Drugs, but no general improvement can be noticed in prices. Turmeric is rather dearer, Bengal selling at 24s. 6d. to 25s. 3d., and Madras 25s. Gambier is firm. Cubebs sold at 32s. 3d. to 32s. 6d. Safflower is also rather dearer for the better kinds. Barbadoes Aloes are rather easier for the inferior sorts, but full up for good. Cod-Liver Oil is steady; sales of new Newfoundland made at 8s. to 9s., old 4s. to 6s., and Norwegian 4s. to 5s. 6d. Castor Oil is rather easier. Citronelle is 1s. 4d. cheaper. A good business has been done in Oil Anniseed at 9s to 9s. 4½d. spot, and 9s. 3d. to 9s. 6d. to arrive. Musk is 1s. to 2s. cheaper. Ipecacuanha is 6d. to 1s. lower. Jalap is held for firm rates. East India Gum Arabic has brought much higher prices, owing to the scarcity. Turkey is also rather dearer. Bombay Senna is rather easier; about 150 bales of the late arrivals sold at 4¼d. to 4¾d. Tinnevelly is without change. The parcels of China Rhubarb offered at sale were chiefly bought in. China Vermillion is 3d. lower. Bark sells steadily at late rates. Siam Gum Benjamin is rather cheaper. Nux Vomica is. 1s. to 2s. cheaper. More doing in Shellac at firm prices. Colombo Root is considerably lower, owing to late arrivals; the last sales made at 90s. to 100s. Turkey Opium is firm, at 19s. to 19s. 6d. for fine. Cardamoms are firm. In other goods there is little change to notice.

PRICE CURRENT.

These quotations are the latest for ACTUAL SALES *in Mincing Lane. It will be necessary for our retail subscribers to bear in mind that they cannot, as a rule, purchase at the prices quoted, inasmuch as these are the* CASH PRICES IN BULK. *They will, however, be able to form a tolerably correct idea of what they ought to pay.*

	1866.		1866.		1865.		1865.	
	s.	d.	s.	d.	s.	d.	s.	d.
ARGOL, Cape, per cwt.	70	0	82	6	75	0	90	0
French	56	0	76	0	58	0	83	0
Oporto, red	30	0	32	0	45	0	47	0
Sicily	67	6	70	0	72	6	75	0
Naples, white	66	0	71	0	68	0	76	0
Florence, white	85	0	90	0	85	0	90	0
red	77	0	80	0	80	0	85	0
Bologna, white	87	0	90	0	90	0	95	0
ARROWROOT..(duty 4½ per cwt.)								
Bermuda..per lb.	1	0	1	4	1	0	1	6
St. Vincent	0	2½	0	5½	0	2½	0	6
Jamaica	0	3	0	4¼	0	3	0	5½
Other West India	0	2¼	0	3½	0	1½	0	3
Brazil	0	2¼	0	3	0	2½	0	3
East India	0	2½	0	4	0	1¾	0	3½
Natal	0	3¼	0	7½	0	4	0	8¾
Sierra Leone	0	3¼	0	4	0	3½	0	4½
ASHES....per cwt.								
Pot, Canada, 1st sort	35	0	36	0	29	6	0	0
Pearl, ditto, 1st sort	46	0	0	0	30	6	0	0
BRIMSTONE,								
rough....per ton	130	0	0	0	135	0	0	0
roll	195	0	205	0	195	0	205	0
flour	245	0	260	0	245	0	250	0
CHEMICALS,								
Acid—Acetic, per lb.	0	4	0	0	0	4	0	0
Citric	1	11	2	0	1	11	2	0
Nitric	0	5	0	5½	0	5	0	5½
Oxalic	0	11	0	11½	0	10	0	0
Sulphuric	0	0¾	0	1	0	0¾	0	0
Tartaric crystal	1	3½	0	4	1	5	1	5½
powdered	1	4½	1	5	1	6	0	0
Alum ....per ton	150	0	155	0	140	0	145	0
powder	160	0	170	0	160	0	0	0
Ammonia, Carbonate, per lb.	0	5¼	0	5½	0	5	0	5½
Sulphate ......per ton	220	0	245	0	260	0	0	0
Antimony, ore	180	0	200	0	180	0	0	0
crude ......per cwt	24	0	25	0	24	0	25	0
regulus	34	0	0	0	34	0	0	0
French star	34	0	0	0	34	0	0	0
Arsenic, lump	15	0	15	6	15	0	15	6
powder	6	6	7	0	6	0	6	6
Bleaching powder	15	0	0	0	11	0	11	6
Borax, East India refined	0	0	0	0	0	0	0	0
British	65	0	0	0	54	0	0	0
Calomel ....per lb.	2	5	0	0	2	8	0	0
Camphor, refined	1	6½	0	0	1	4½	0	0
Copperas, green ....per ton	52	6	55	0	50	0	52	6
Corrosive Sublimate, per lb.	1	11	0	0	2	3	0	0
Green Emerald	0	0	0	0	0	0	0	0
Brunswick ....per cwt.	0	0	0	0	0	0	0	0
CHEMICALS.								
Iodine, dry ....per oz.	0	9¼	0	9½	0	6	0	6½
Magnesia, Carbon....per cwt.	42	6	45	0	42	6	45	0
Calcined....per lb.	1	6	1	8	1	6	1	8
Minium, red ......per cwt.	22	0	23	6	20	0	0	0
orange	32	6	0	0	30	0	0	0
Potash, Bichromate..per lb.	0	5¼	0	5½	0	6	0	0
Chlorate	1	1	1	1½	1	2	0	0
Hydriodate..per oz.	0	7	0	7½	0	0	0	0
Prussiate....per lb.	1	0½	1	1	0	11¼	0	11½
red	1	9½	1	10	1	9	1	9½
Precipitate, red .... per lb.	0	0	2	6	2	9	0	0
white	0	0	2	5	2	9	0	0
Prussian Blue	1	0	1	10	1	0	1	10
Rose Pink ....per cwt.	29	0	0	0	29	0	0	0
Sal-Acetos ....per lb.	1	1	1	1½	0	11½	1	0
Sal-Ammoniac ....per cwt.								
British	35	6	37	6	35	6	38	0
Salts, Epsom	8	6	9	6	8	6	0	0
Glauber	5	0	6	0	5	0	5	6
Soda, Ash..........per deg.	0	2½	0	3⅛	0	2¼	0	2½
Bicarbonate..per cwt.	17	6	18	6	15	6	16	0
Crystals ......per ton	120	0	0	0	125	0	130	0
Sugar Lead, white per cwt.	38	0	0	0	36	0	0	0
brown	27	0	0	0	26	0	26	6
Sulphate Quinine....per oz.								
British, in bottle	5	0	0	0	5	4	0	0
Foreign	4	3	0	0	5	0	5	2
Sulphate Zinc......per cwt.	0	0	0	0	0	0	0	0
Verdigris............per lb.	0	11	1	0	0	11	1	0
Vermilion, English	2	9	3	0	2	11	3	3
China	3	0	3	6	2	10	0	0
Vitriol, blue or Rom. per ct.	26	0	27	0	26	6	27	0
COCHINEAL, per lb.								
Honduras, black	3	0	4	4	3	2	5	0
silver	2	6	3	9	2	0	3	5
Mexican, black	3	4	3	7	3	2	3	7
silver	3	4	3	5	8	1	3	2
Lima	0	0	0	0	3	0	3	2
Teneriffe, black	3	4	4	3	3	5	4	0
silver	3	3	3	5	3	4	3	6
DRUGS,								
Aloes, Hepatic ....per cwt.	100	0	180	0	100	0	190	0
Socotrine	140	0	290	0	160	0	290	0
Cape, good	36	0	40	0	42	0	45	0
inferior	20	0	35	0	25	0	40	0
Barbadoes	50	0	260	0	40	0	300	0
Ambergris, grey ....per oz.	30	0	35	0	22	0	24	0
Angelica Root ....per cwt.	0	0	0	0	20	0	35	0
Aniseed, China star	75	0	78	0	170	0	175	0
German, &c.	26	0	40	0	24	0	40	0
Balsam, Canada ....per lb.	1	8	1	9	0	10	0	11
Capivi	1	8	0	0	1	7	1	9
Peru	5	6	0	0	4	9	0	0
Tolu	3	0	3	3	2	6	2	9
Bark, Cascarilla....per cwt.	18	0	29	0	23	0	34	0
Peru, crown & grey per lb.	1	2	2	3	0	9	2	0
Calisaya, flat	2	6	2	9	2	2	2	9
quill	1	10	2	4	2	0	2	8
Carthagena	1	0	1	6	0	10	1	9
Pitayo	0	9	2	0	0	10	2	2
Red	2	6	13	0	1	9	10	0
Bay Berries........per cwt.	0	0	0	0	0	0	0	0
Bucca Leaves........per lb.	0	4	0	10	0	4	0	9
Camomile Flowers	40	0	120	0	20	0	65	0
Camphor, China	120	0	122	6	92	6	97	6
Canella alba	50	0	55	0	23	0	33	0
Cantharides ....per lb.	2	6	2	7	2	2	2	3
Cardamoms, Malabar, good	5	8	6	3	6	3	7	0
inferior	3	6	5	0	4	6	6	0
Madras	3	0	5	2	2	9	5	3
Ceylon	3	0	3	9	3	3	4	3
Cassia Fistula......per cwt.	18	0	35	0	23	0	30	0
Castor Oil, 1st pale ..per lb.	0	7	0	7½	0	6¼	0	6½
2nd	0	6¾	0	7	0	5¾	0	6
inferior and dark	0	6½	0	6¾	0	4½	0	5
Bombay, in casks	0	6	0	6¼	0	4½	0	4¾
Castorum	1	0	20	0	1	0	20	0
China Root ....per cwt.	20	0	40	0	0	0	0	0
Cocculus Indicus	26	0	30	0	27	0	28	0
Cod Liver Oil ......per gal.	4	6	9	0	3	6	6	6
Colocynth, apple ....per lb.	0	7½	1	0	0	7	1	1
Colombo Root ....per cwt.	90	0	100	0	240	0	300	0
Cream Tartar								
French	82	6	85	0	97	6	100	0
Venetian	87	6	0	0	100	0	0	0
grey	80	0	82	6	90	0	92	6
brown	80	0	0	0	85	0	90	0
Croton Seed	250	0	260	0	860	0	400	0
Cubebs	72	6	80	6	85	0	0	0
Cummin Seed	17	0	23	0	16	0	23	0
Dragon's blood reed	300	0	400	0	240	0	300	0
lump	105	0	280	0	80	0	260	0
Galangal Root	10	6	12	6	13	0	15	0
Gentian Root	17	0	18	0	21	0	22	0
Guinea Grains .... per cwt.	62	0	68	0	56	0	60	0
Honey, Narbonne	50	0	70	0	40	0	80	0
Cuba	26	0	40	0	25	0	33	0
Jamaica	25	0	55	0	26	0	61	0
Ipecacuanha ....per lb.	10	0	11	6	7	6	7	9
Isinglass, Brazil	2	0	5	4	1	8	4	6
East India	1	6	4	0	1	0	4	0
West India	3	7	4	2	3	0	3	3
Russian	7	6	11	0	8	0	10	6
Jalap	0	9	5	6	1	0	5	3

	1866.		1866.		1865.		1865.	
	s.	d.	s.	d.	s.	d.	s.	d
DRUGS—*continued.*								
Juniper Berries ....per cwt.								
German and French ..	8	0	10	0	7	0	0	0
Italian	0	0	10	0	0	0	10	0
Lemon Juice ......per deg.	0	0¾	0	0¾	0	0¾	0	0¾
Liquorice ....per cwt.								
Spanish	65	0	75	0	75	0	80	0
Italian	50	0	70	0	55	0	70	0
Manna, flaky	4	0	5	0	2	0	2	0
small	1	10	2	0	1	2	1	4
Musk ....per oz.	18	0	33	0	17	0	34	6
Nux Vomica	0	0	11	0	13	6	18	0
Opium, Turkey	17	6	19	6	12	0	15	0
Egyptian	3	0	7	0	0	0	0	0
Orris Root ......per cwt.	33	0	37	0	29	0	31	0
Pink Root .... per lb.	3	6	4	0	3	0	0	0
Quassia (bitter wood) per ton	90	0	120	0	100	0	0	0
Rhatany Root ......per lb.	0	4	1	0	0	5	1	1
Rhubarb, China, round	2	6	10	0	4	0	12	0
flat	2	0	3	0	4	0	9	6
Dutch, trimmed ..	9	0	0	0	14	0	15	0
Russian	9	0	10	0	16	0	17	0
Saffron, Spanish	32	0	30	0	30	0	32	0
Salep.............. per cwt.	120	0	130	0	130	0	160	0
Sarsaparilla, Lima	1	0	1	4	1	0	1	4
Para	0	11	1	1	0	11	1	1
Honduras	0	10	1	6	0	9	1	7
Jamaica	1	0	2	2	1	1	2	3
Sassafras ....per cwt.	9	0	0	0	14	6	15	0
Scammony, virgin ..per lb.	30	0	44	0	30	0	44	0
second	12	0	23	0	14	0	23	0
Seneka Root	2	4	2	6	2	10	3	0
Senna, Calcutta	0	0	0	0	0	0	0	0
Bombay	0	3½	0	5	0	4	0	5½
Tinnevelly	0	3½	0	9	0	4	1	0
Alexandria	0	4	0	10	0	3	0	9
Snake Root	7	3	0	0	3	6	0	0
Spermaceti, refined	0	0	1	2	0	11	0	0
Squills	0	2	0	3½	0	1	0	3½
Tamarinds, E. India, per cwt.	32	0	36	0	16	6	17	0
West India	12	0	22	0	10	0	20	0
Terra Japonica—								
Gambier ....per cwt.	22	0	32	0	21	0	27	6
Cutch	20	0	32	0	22	0	24	6
Valerian Root, English	20	0	29	0	20	0	30	0
Vanilla, Mexican......per b.	5	0	14	0	20	0	30	0
Wormseed..........per cwt.	5	0	6	0	0	0	0	0
GUM—Ammoniac, drop, per cwt.	120	0	170	0	120	0	170	0
lump	40	0	35	0	40	0	85	0
Animi, fine pale	210	0	270	0	210	0	220	0
bold amber..........	190	0	220	0	190	0	210	0
medium	160	0	180	0	160	0	180	0
small and dark	100	0	150	0	100	0	155	0
ordinary dark	40	0	07	0	40	0	95	0
Arabic, E. I., fine pale picked	115	0	120	0	72	0	85	0
unsorted, good to fine	95	0	105	0	60	0	70	0
red and mixed	85	0	90	0	40	0	55	0
siftings	45	0	50	0	25	0	40	0
Turkey, picked, good to fine	170	0	220	0	130	0	180	0
second and inferior.	95	0	160	0	65	0	120	0
in sorts	46	0	70	0	32	0	50	0
Gedda	64	0	66	0	40	0	48	0
Barbary, white	95	0	100	0	58	0	75	0
brown	85	0	90	0	42	0	53	0
Australian.................	55	0	67	0	30	0	36	0
Assafœtida, fair to good	35	0	95	0	25	0	55	0
Benjamin, 1st quality	300	0	400	0	550	0	950	0
2nd ,, ...	240	0	300	0	410	0	500	0
3rd ,, ...	50	0	240	0	80	0	940	0
Copal, Angola, red	70	0	80	0	70	0	82	0
pale	85	0	90	0	70	0	80	0
Benguela	60	0	80	0	00	0	96	0
Sierra Leone .. per lb.	0	4	0	11½	0	4½	1	0
Manilla...... per cwt.	25	0	48	0	23	0	36	0
Dammar, pale ......per cwt.	52	6	61	0	40	0	52	0
Galbanum..................	200	0	210	0	160	0	170	0
Gamboge, picked, pipe	400	0	460	0	190	0	220	0
in sorts	280	0	400	0	140	0	200	0
Guaiacum............per lb,	0	7	1	8	0	9	1	5
Kino .... per cwt.	300	0	380	0	340	0	400	0
Kowrie	27	0	75	0	27	0	51	0
Mastic, picked ...... per lb.	10	0	11	0	8	6	0	0
Myrrh, gd. and fine, per cwt.	150	0	130	0	130	0	180	0
sorts................	80	0	140	0	70	0	130	0
Olibanum, pale drop	69	0	75	0	63	0	73	0
amber and yellow	59	0	68	0	60	0	68	0
mixed and dark..	20	0	46	0	16	0	44	0
Senegal	100	0	115	0	70	0	80	0
Sandrac	80	0	100	0	72	6	95	0
Tragacanth, leaf	200	0	280	0	200	0	280	0
in sorts	70	0	180	0	80	0	160	0
OILS..................per tun	£	s.	£	s.	£	s.	£	s.
Seal	47	0	0	0	39	0	43	0
Sperm, body.................	130	0	0	0	110	0	115	0
Cod	49	10	0	0	49	0	49	10
Whale, Greenland	0	0	0	0	0	0	0	0
South Sea, pale......	42	0	45	0	43	0	40	0
East India Fish......	35	0	0	0	34	0	35	0
Olive, Galipoli ...... per ton	58	0	0	0	54	0	55	0
	s.	d.	s.	d.	s.	d.	s.	d.
Florence, half-chest ..	0	0	0	0	0	0	0	0
Cocoanut, Cochin ..per cwt.	58	6	59	6	50	0	50	0
Ceylon	48	0	49	0	47	6	0	0
Sydney	43	0	49	0	41	0	47	0
Ground Nut and Gin.								
Bombay	53	0	0	0	44	0	0	0

	1800.		1806.		1865.		1865.	
	s.	d.	s.	d	s.	d.	s.	d.
OILS—*continued.*								
Madras ....per cwt.	50	0	51	0	45	0	46	0
Palm, fine	43	0	44	0	42	6	42	6
Linseed	39	0	40	0	37	0	37	6
Rapeseed, English, pale	43	0	0	0	48	0	0	0
brown	40	0	0	0	47	6	0	0
Foreign pale	44	0	44	6	48	6	49	0
brown	42	0	0	0	47	6	0	0
Lard	62	0	0	0	77	0	0	0
Tallow	35	0	36	0	40	0	0	0
Rock Crude .... per ton	£15	0	0	0	£20	0	£ 0	0
OILS, Essential—								
Almond, essential ....per lb.	40	0	0	0	0	0	0	0
expressed	2	8	0	0	0	10	0	0
Aniseed	9	2	9	3	7	10	7	11
Bay ....per cwt.	80	0	90	0	0	0	0	0
Bergamot ....per lb.	10	6	10	0	10	0	14	0
Cajeputa, (in bond) ..per oz.	0	2¾	0	3	0	2	0	6
Caraway ....per lb.	5	0	6	6	5	0	6	0
Cassia	7	6	0	0	7	9	7	10
Cinnamon (in bond) ..per oz.	1	6	3	9	1	2	3	8
Cinnamon Leaf	0	4	0	0	0	5	0	6
Citronel	0	3½	0	5½	0	4	0	4½
Clove	2	8	0	0	0	0	0	0
Croton	1	2	1	0	1	2	1	0
Juniper..............per lb.	1	0	2	0	1	9	2	0
Lavender	2	0	3	3	1	0	2	10
Lemon	5	0	7	0	5	9	8	6
Lemongrass..........per oz.	1	0	1	2	1	6	1	8½
Mace, ex.	0	1	0	2½	0	1	0	2½
Neroli	3	6	4	6	5	0	5	9
Nutmeg	0	3	0	0	0	3	0	4½
Orange ....per lb.	5	0	7	0	5	0	0	6
Otto of Roses ....per oz.	17	0	20	0	18	0	23	0
Peppermint, per lb.								
American	15	6	16	0	14	6	15	0
English	30	0	33	0	0	0	0	0
Rhodium ....per oz.	0	0	0	0	0	0	0	0
Rosemary ....per lb.	1	9	2	0	2	0	2	3
Sassafras	3	0	3	0	3	3	3	6
Spearmint..................	21	0	0	0	5	0	8	0
Spike	0	0	0	0	0	0	0	0
Thyme	1	8	2	0	1	9	2	0
PITCH, British ......per cwt.	8	6	0	0	9	0	9	0
Swedish	0	0	0	0	0	0	0	0
SALTPETRE, per cwt.								
English, 6 per cent. or under	20	0	20	6	24	0	24	6
over 6 per cent.	19	6	20	0	23	0	23	9
Madras	18	0	20	0	20	0	22	6
Bombay....................	15	0	19	6	18	0	20	0
British-refined	25	0	25	6	23	0	28	6
Nitrate of soda............	11	6	13	0	13	0	14	6
SEED, Canary ....per qr.	52	0	64	0	40	0	43	0
Caraway, English .. per cwt.	0	0	0	0	0	0	0	0
German, &c.	0	0	0	0	0	0	0	0
Coriander	0	0	0	0	0	0	0	0
East India........	0	0	0	0	0	0	0	0
Hemp......................	44	0	46	0	44	0	46	0
Linseed, Black Sea..........	62	0	63	0	59	6	0	0
Calcutta	69	0	70	0	61	6	62	0
Bombay	71	0	0	0	63	0	0	0
Egyptian	0	0	0	0	52	0	53	0
Mustard, brown....per bshl.	0	0	0	0	0	0	0	0
white	20	0	25	0	9	0	10	6
Poppy, East India....per qr.	57	6	0	0	53	0	54	6
Rape, English	0	0	0	0	0	0	0	0
Danube	0	0	0	0	63	0	65	0
Calcutta fine..........	54	0	54	6	61	0	62	0
Bombay	56	0	60	0	73	0	0	0
Teel, Sesmy or Gingy.........	65	0	68	0	62	0	04	0
Cotton ....per ton	160	0	170	0	140	0	150	0
Ground Nut Kernels per ton	340	0	0	0	280	0	0	0
SOAP, London yel. .. per cwt.	23	0	32	0	28	0	32	0
mottled	32	0	36	0	32	0	30	0
curd	46	0	50	0	46	0	50	0
Castile	40	0	42	0	40	0	42	0
Marseilles	40	0	42	0	40	0	42	0
Soy, China ....per gal.	3	0	0	0	3	6	0	0
Japan	0	0	0	0	0	0	0	0
Sponge, Turkey, fine picked	14	0	18	0	19	0	23	0
fair to good	6	0	12	0	7	0	17	0
ordinary ..	1	6	4	0	2	6	6	0
Bahama ..	0	8	2	6	0	4	1	3
TURPENTINE, Rough, per ct.	10	0	0	0	14	0	15	0
Spirits, French	37	0	37	6	45	0	0	0
American, in casks	33	0	33	6	50	0	0	0
WAX, Bees, English	180	0	185	0	170	0	175	6
German	195	0	200	0	162	0	185	0
American	185	0	190	0	175	0	0	0
white fine	0	0	0	0	3	0	0	0
Jamaica	160	0	170	0	190	0	195	0
Gambia	175	0	190	0	180	0	210	0
Mogadore	140	0	165	0	125	0	160	0
East India..............	160	0	190	0	150	0	130	0
ditto, bleached	190	0	220	0	200	0	230	0
vegetable, Japan	64	0	88	0	65	0	73	0
WOOD, Dye, per ton								
Fustic, Cuba..........	150	0	170	0	160	0	180	0
Jamaica	100	0	105	0	100	0	105	0
Savanilla	120	0	130	0	120	0	130	0
Zante	0	0	0	0	0	0	0	0
Logwood, Campeachy	165	0	180	0	130	0	190	0
Honduras ..	100	0	105	0	105	0	0	0
St. Domingo	00	0	95	0	85	0	90	0
Jamaica ...	77	6	80	0	82	6	87	6